

Submittal of Annual Reports and Other Compliance Documents for Municipal Separate Storm Sewer System (MS4) Permits

NOTE: Missing or incomplete fields are highlighted at the bottom of each page. You may save, close and return to your draft permit as often as necessary to complete your application. After 120 days your draft is **deleted**.

Reporting Information

Will you be completing the Annual Report or other submittal type? Annual Report Other

Project Name: 2020 Annual MS4 Report

County: Waukesha

Municipality: Mukwonago, Village

Permit Number: S050075

Facility Number: 35717

Reporting Year: 2020

Is this submittal also satisfying an Urban Nonpoint Source Grant funded deliverable? Yes No

Required Attachments and Supplemental Information

Please complete the contents of each tab to submit your MS4 permit compliance document. The information included in this checklist is necessary for a complete submittal. A complete and detailed submittal will help us review about your MS4 permit document. To help us make a decision in the shortest amount of time possible, the following information must be submitted:

Annual Report

- Review related web site and instructions for [Municipal storm water permit eReporting](#) [Exit Form]
- Complete all required fields on the annual report form and upload required attachments
- Attach the following other supporting documents as appropriate using the attachments tab above
 - Public Education and Outreach Annual Report Summary
 - Public Involvement and Participation Annual Report Summary
 - Illicit Discharge Detection and Elimination Annual Report Summary
 - Construction Site Pollution Control Annual Report Summary
 - Post-Construction Storm Water Management Annual Report Summary
 - Pollution Prevention Annual Report Summary
 - Leaf and Yard Waste Management
 - Municipal Facility (BMP) Inspection Report
 - Municipal Property SWPPP
 - Municipally Property Inspection Report
 - Winter Road Maintenance
 - Storm Sewer Map Annual Report Attachment
 - Storm Water Quality Management Annual Report Attachment
 - TMDL Attachment
 - Storm Water Consortium/Group Report

- Municipal Cooperation Attachment
- Other Annual Report Attachment

- Attach the following permit compliance documents as appropriate using the attachments tab above
 - Storm Water Management Program (*S050075-03 General Permit and S058416-04 Madison Area Group Permit shall have a written storm water management program that describes in detail how the permittee intends to comply with the permit requirements for each minimum control measure. Updated programs are due to the department by March 31, 2021.*)
 - Public Education and Outreach Program
 - Public Involvement and Participation Program
 - Illicit Discharge Detection and Elimination Program
 - Construction Site Pollutant Control Program
 - Post-Construction Storm Water Management Program
 - Pollution Prevention Program
 - Municipal Storm Water Management Facility (BMP) Inventory (*S050075-03 General Permit and S058416-04 Madison Area Group Permit 2.6.1 - inventory due to the department by March 31, 2021.*)
 - Municipal Storm Water Management Facility (BMP) Inspection and Maintenance Plan (*S050075-03 General Permit and S058416-04 Madison Area Group Permit 2.6.2 – document due to the department by March 31, 2021.*)
 - Total Maximum Daily Load documents (**if applicable, see permit for due dates.*)
 - TMDL Mapping*
 - TMDL Modeling*
 - TMDL Implementation Plan*
 - Fecal Coliform Screening Parameter *
 - Fecal Coliform Inventory and Map (*S050075-03 general permittees Appendix B B.5.2 – document due to the department by March 31, 2022*)
 - Fecal Coliform Source Elimination Plan (*S050075-03 general permittees Appendix B - document due to the department by October 31,2023*)

- Sign and Submit form

Municipal Contact Information- Complete

Notice: Pursuant to s. NR 216.07(8), Wis. Adm. Code, an owner or operator of a Municipal Separate Storm Sewer System (MS4) is required to submit an annual report to the Department of Natural Resources (Department) by March 31 of each year to report on activities for the previous calendar year ("reporting year"). This form is being provided by the Department for the user's convenience for reporting on activities undertaken in each reporting year of the permit term. Personal information collected will be used for administrative purposes and may be provided to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].

Note: Compliance items must be submitted using the Attachments tab.

Municipality Information

Name of Municipality: Mukwonago, Village

Facility ID # or (FIN): 35717

Updated Information: Check to update mailing address information

Mailing Address: 440 River Crest Court

Mailing Address 2:

City: Mukwonago

State: Wisconsin

Zip Code: 53149 xxxxx or xxxxx-xxxx

Primary Municipal Contact Person (Authorized Representative for MS4 Permit)

The "Authorized Representative" or "Authorized Municipal Contact" includes the municipal official that was charged with compliance and oversight of the permit conditions, and has signature authority for submitting permit documents to the Department (i.e., Mayor, Municipal Administrator, Director of Public Works, City Engineer).

Select to **create new** primary contact

First Name: Ron

Last Name: Bittner

Select to **update** current contact information

Title: PW Director

Mailing Address: 440 River Crest Court

Mailing Address 2:

City: Mukwonago

State: WI

Zip Code: 53149 xxxxx or xxxxx-xxxx

Phone Number: 262-363-6447 Ext: xxx-xxx-xxxx

Email: rbittner@villageofmukwonago.com

Additional Contacts Information (Optional)

- I&E Program
- IDDE Program
- IDDE Response Procedure Manual

**Individual with responsibility for:
(Check all that apply)**

- Municipal-wide Water Quality Plan
- Ordinances
- Pollution Prevention Program
- Post-Construction Program
- Winter roadway maintenance

First Name:

Last Name:

Title:

Mailing Address:

Mailing Address 2:

City:

State:

Zip Code: xxxxx or xxxxx-xxxx

Phone Number: Ext: xxx-xxx-xxxx

Email:

1. Does the municipality rely on another entity to satisfy some of the permit requirements?

Yes No

Public Education and Outreach Waukesha County

Public Involvement and Participation Waukesha County

Illicit Discharge Detection and Elimination

Construction Site Pollutant Control Ruekert & Mielke

Post-Construction Storm Water Management

Pollution Prevention

2. Has there been any changes to the municipality's participation in group efforts towards permit compliances (i.e., the municipality has added or dropped consortium membership)?

Yes No

Minimum Control Measures- Section 1 : Complete**1. Public Education and Outreach**

a. Complete the following information on Public Education and Outreach Activities related to storm water. Select the Delivery Mechanism that best describes how the topics were conveyed to your population. Use the Add Event to add additional entries.

Event Start Date	1/2/2020		
Project/Event Name	Waukesha County Programs		
Delivery Mechanism	Educational activity*		*Active
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input checked="" type="checkbox"/> Illicit discharge detection and elimination <input checked="" type="checkbox"/> Household hazardous waste disposal/pet waste management/vehicle washing <input checked="" type="checkbox"/> Yard waste management/pesticide and fertilizer application <input checked="" type="checkbox"/> Stream and shoreline management <input checked="" type="checkbox"/> Residential infiltration <input checked="" type="checkbox"/> Construction sites and post-construction storm water management <input checked="" type="checkbox"/> Pollution prevention <input checked="" type="checkbox"/> Green infrastructure/low impact development <input type="checkbox"/> Other: <input type="text"/>	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input checked="" type="checkbox"/> Businesses <input checked="" type="checkbox"/> Contractors <input checked="" type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	Select...	<input type="radio"/> Yes <input type="radio"/> No

Event Start Date	6/17/2020		
Project/Event Name	Empire Level BMP Maintenance		
Delivery Mechanism	Other		*Active
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input type="checkbox"/> Illicit discharge detection and elimination <input type="checkbox"/> Household hazardous waste disposal/pet waste management/vehicle washing <input type="checkbox"/> Yard waste management/pesticide and fertilizer application <input type="checkbox"/> Stream and shoreline management <input type="checkbox"/> Residential infiltration <input type="checkbox"/> Construction sites and post-construction storm water management <input checked="" type="checkbox"/> Pollution prevention <input type="checkbox"/> Green infrastructure/low impact development <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input checked="" type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	1 - 10	<input type="radio"/> Yes <input checked="" type="radio"/> No

Event Start Date	2/6/2020		
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Project/Event Name	Antigua Real BMP Maintenance		
Delivery Mechanism	Other		*Active
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input type="checkbox"/> Illicit discharge detection and elimination <input type="checkbox"/> Household hazardous waste disposal/pet waste management/vehicle washing <input type="checkbox"/> Yard waste management/pesticide and fertilizer application <input type="checkbox"/> Stream and shoreline management <input type="checkbox"/> Residential infiltration <input type="checkbox"/> Construction sites and post-construction storm water management <input checked="" type="checkbox"/> Pollution prevention <input type="checkbox"/> Green infrastructure/low impact development <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input checked="" type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	1 - 10	<input type="radio"/> Yes <input checked="" type="radio"/> No

Event Start Date	12/15/2020		
Project/Event Name	Badge Color BMP Maintenance		
Delivery Mechanism	Other		*Active
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input checked="" type="checkbox"/> Illicit discharge detection and elimination <input type="checkbox"/> Household hazardous waste disposal/pet waste management/vehicle washing <input type="checkbox"/> Yard waste management/pesticide and fertilizer application <input type="checkbox"/> Stream and shoreline management <input type="checkbox"/> Residential infiltration <input type="checkbox"/> Construction sites and post-construction storm water management <input checked="" type="checkbox"/> Pollution prevention <input type="checkbox"/> Green infrastructure/low impact development <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input checked="" type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	1 - 10	<input type="radio"/> Yes <input checked="" type="radio"/> No

b. Brief explanation on Public Education and Outreach reporting. *Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See Waukesha County Education Group Spreadsheet for regional effort and the Village's Education and Outreach Plan.

2. Public Involvement and Participation

a. Permit Activities. Complete the following information on Public Involvement and Participation Activities related to storm water. Select the Delivery Mechanism that best describes how the permit activities were conveyed to your population. Use the Add Event to add additional entries.

Event Start Date	3/2/2020		
Project/Event Name	Green Home Make Over		
Delivery Mechanism	Public Workshop		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input type="checkbox"/> MS4 Annual Report <input checked="" type="checkbox"/> Storm Water Management Program <input type="checkbox"/> Storm Water related ordinance <input type="checkbox"/> Other: <input type="text"/>	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	51-100	<input checked="" type="radio"/> Yes <input type="radio"/> No

Event Start Date	5/5/2020		
Project/Event Name	Stormwater Workshop		
Delivery Mechanism	Presentation of Storm Water Information		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input type="checkbox"/> MS4 Annual Report <input checked="" type="checkbox"/> Storm Water Management Program <input type="checkbox"/> Storm Water related ordinance <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input checked="" type="checkbox"/> Contractors <input checked="" type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	101 +	<input checked="" type="radio"/> Yes <input type="radio"/> No

Event Start Date	9/8/2020		
Project/Event Name	Sensible Salting		
Delivery Mechanism	Presentation of Storm Water Information		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input type="checkbox"/> MS4 Annual Report <input type="checkbox"/> Storm Water Management Program <input type="checkbox"/> Storm Water related ordinance <input checked="" type="checkbox"/> Other: Winter Road Maintenance	<input type="checkbox"/> General Public <input checked="" type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	Select...	<input type="radio"/> Yes <input type="radio"/> No

Event Start Date	10/7/2020		
Project/Event Name	Village Board MS4 Presentation		

Delivery Mechanism		Presentation of Storm Water Information	
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
<input checked="" type="checkbox"/> MS4 Annual Report <input type="checkbox"/> Storm Water Management Program <input type="checkbox"/> Storm Water related ordinance <input type="checkbox"/> Other: <input type="text"/>	<input checked="" type="checkbox"/> General Public <input checked="" type="checkbox"/> Public Employees <input checked="" type="checkbox"/> Residents <input checked="" type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	11-50	<input type="radio"/> Yes <input checked="" type="radio"/> No

b. Volunteer Activities. Complete the following information on Public Involvement and Participation Activities related to storm water. Select the Delivery Mechanism that best describes how volunteer activities were conveyed to your population. Use the Add Event to add additional entries.

Event Start Date	5/1/2020		
Project/Event Name	WAV		
Delivery Mechanism	Stream monitoring		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	11-50	<input checked="" type="radio"/> Yes <input type="radio"/> No

Event Start Date	7/1/2020		
Project/Event Name	Adopt A Drain		
Delivery Mechanism	Storm drain stenciling		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	51-100	<input checked="" type="radio"/> Yes <input type="radio"/> No

Event Start Date	7/1/2020		
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Project/Event Name	Asian Clam Monitoring		
Delivery Mechanism	Public Workshop		
Topics Covered	Target Audience	Estimated People Reached (Optional)	Regional Effort (Optional)
Volunteer Opportunity	<input checked="" type="checkbox"/> General Public <input type="checkbox"/> Public Employees <input type="checkbox"/> Residents <input type="checkbox"/> Businesses <input type="checkbox"/> Contractors <input type="checkbox"/> Developers <input type="checkbox"/> Industries <input type="checkbox"/> Other	11-50	<input checked="" type="radio"/> Yes <input type="radio"/> No

c. Brief explanation on Public Involvement and Participation reporting. *Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See the attached Village of Mukwonago Public Involvement Plan.

Form 3400-224 (09/20)

Minimum Control Measures - Section 3 : Complete

3. Illicit Discharge Detection and Elimination

- a. How many total outfalls does the municipality have? Unsure
- b. How many outfalls did the municipality evaluate as part of their routine ongoing field screening program? Unsure
- c. From the municipality's routine screening, how many were confirmed illicit discharges? Unsure
- d. How many illicit discharge complaints did the municipality receive? Unsure
- e. From the complaints received, how many were confirmed illicit discharges? Unsure
- f. How many of the identified illicit discharges did the municipality eliminate in the reporting year (from both routine screening and complaints)? Unsure

(If the sum of 3.c. and 3.e. does not equal 3.f., please explain below.)

- g. How many of the following enforcement mechanisms did the municipality use to enforce its illicit discharge ordinance? Check all that apply and enter the number of each used in the reporting year. Unsure
- Verbal Warning
- Written Warning (including email)
- Notice of Violation
- Civil Penalty/ Citation

Additional Information: _____

- h. Brief explanation on Illicit Discharge Detection and Elimination reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See the attached Illicit Discharge Detection and Elimination Program.

Form 3400-224 (09/20)

Minimum Control Measures - Section 4 : Complete

4. Construction Site Pollutant Control

- a. How many total construction sites with one acre or more of land disturbing construction activity were active at any point in the reporting year? Unsure
- b. How many construction sites with one acre or more of land disturbing construction activity did the municipality issue permits for in the reporting year? Unsure
- c. How many erosion control inspections did the municipality complete in the reporting year? Unsure

- d. What types of enforcement actions does the municipality have available to compel compliance with the regulatory mechanism? Check all that apply and enter the number of each used in the reporting year. Unsure

- No Authority
- Verbal Warning
- Written Warning (including email)
- Notice of Violation
- Civil Penalty/ Citation
- Stop Work Order
- Forfeiture of Deposit
- Other - Describe below

- e. Brief explanation on Construction Site Pollutant Control reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attached updated written procedure for erosion control.

Form 3400-224 (09/20)

Minimum Control Measures - Section 5 : Complete

5. Post-Construction Storm Water Management

- a. How many sites with new structural storm water management facilities* have received local approval ? Unsure

*Engineered and constructed systems that are designed to provide storm water quality control such as wet detention ponds, constructed wetlands, infiltration basins, grassed swales, permeable pavement, catch basin sumps, etc.

b. Does the municipality utilize privately owned storm water management facilities in its pollutant reduction analysis? Yes No Unsure

c. If Yes, How many privately owned storm water management facilities were inspected in the reporting year ? Unsure
Inspections completed by private land owners should be included in the reported number.

d. What types of enforcement actions does the municipality have available to compel compliance with the regulatory mechanism? Check all that apply and enter the number of each used in the reporting year. Unsure

- No Authority
- Verbal Warning
- Written Warning (including email)
- Notice of Violation
- Civil Penalty/ Citation
- Forfeiture of Deposit
- Complete Maintenance
- Bill Responsible Party
- Other - Describe below

The Village withheld occupancy for a pond that failed shortly after construction.

e. Brief explanation on Post-Construction Storm Water Management reporting . *If marked 'Unsure' on any questions above, justify your reasoning. Limit your response to 250 characters and/or attach supplemental information on the attachments page.*

See attached Post Construction Stormwater Management program.

Minimum Control Measures - Section 6 : Complete

6. Pollution Prevention

Storm Water Management Facility Inspections Not Applicable

- a. Enter the total number of municipally owned or operated structural storm water management facilities ? Unsure
- b. How many new municipally owned storm water management facilities were installed in the reporting year ? Unsure
- c. How many municipally owned storm water management facilities were inspected in the reporting year? Unsure
- d. What elements are looked at during inspections (250 character limit)?

Erosion, appropriate vegetation, animal damage, structure damage, debris and pool quality.

- e. How many of these facilities required maintenance? Unsure
- f. Brief explanation on Storm Water Management Facility inspection reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attached Inspection and Maintenance of Municipally Owned or Operated Storm Water Management Facilities program.

Public Works Yards & Other Municipally Owned Properties (SWPPP Plan Review) Not Applicable

- g. How many municipal properties require a SWPPP? Unsure
- h. How many inspections of municipal properties have been conducted in the reporting year? Unsure
- i. Have amendments to the SWPPPs been made?
 Yes No Unsure
- j. If yes, describe what changes have been made. Limit response to 250 characters and/or attach supplemental information on the attachment page:

- k. Brief explanation on Storm Water Pollution Prevention Plan reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

See attached Village of Mukwonago Pollution Prevention Plan.

Collection Services - Street Sweeping / Cleaning Program Not Applicable

- l. Did the municipality conduct street sweeping/cleaning during the reporting year?
 Yes No Unsure
- m. If known, how many tons of material was removed? Unsure
- n. Does the municipality have a low hazard exemption for this material? Yes No
- o. If street cleaning is identified as a storm water best management practice in the pollutant loading analysis, was street cleaning completed at the assumed frequency?
 Yes - Explain frequency Four times annually.
 No - Explain _____
 Not Applicable

Collection Services - Catch Basin Sump Cleaning Program Not Applicable

- p. Did the municipality conduct catch basin sump cleaning during the reporting year?
 Yes No Unsure

- q. How many catch basin sumps were cleaned in the reporting year? Unsure
- r. If known, how many tons of material was collected? Unsure
- s. Does the municipality have a low hazard exemption for this material? Yes No
- t. If catch basin sump cleaning is identified as a storm water best management practice in the pollutant loading analysis, was cleaning completed at the assumed frequency?
 Yes- Explain frequency Each CB is cleaned once per five year permit cycle
 No - Explain _____
 Not Applicable

Collection Services - *Leaf Collection Program* Not Applicable

- u. Does the municipality conduct curbside leaf collection? Yes No Unsure
- v. Does the municipality notify homeowners about pickup? Yes No Unsure
- w. Where are the residents directed to store the leaves for collection?
 Pile on terrace Pile in street Bags on terrace Unsure
 Other - Describe reusable refuse containers on terrace.
- x. What is the frequency of collection?
2 yard waste collections targeting leaves in Nov & Dec.
- y. Is collection followed by street sweeping/cleaning? Yes No Unsure
- z. Brief explanation on Collection Services reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*

Winter Road Management Not Applicable

*Note: We are requesting information that goes beyond the reporting year, answer the best you can.

- aa. How many lane-miles of roadway is the municipality responsible for doing snow and ice control? Unsure
- ab. Provide amount of de-icing products used by month last winter season?
 Solids (tons) (ex. sand, or salt-sand)

Product	Oct	Nov	Dec	Jan	Feb	Mar
<u>Salt</u>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="47"/>	<input type="text" value="152"/>	<input type="text" value="153"/>	<input type="text" value="4"/>

Liquids (gallons) (ex. brine)

	Oct	Nov	Dec	Jan	Feb	Mar
<u>Brine</u>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="2787"/>	<input type="text" value="3989"/>	<input type="text" value="3384"/>	<input type="text" value="3677"/>

- ac. Was salt applying machinery calibrated in the reporting year? Yes No Unsure
- ad. Have municipal personnel attended salt reduction strategy Yes No Unsure

training in the reporting year?

Training Date	Training Name	# Attendance
9/8/2020	Smart Salting Workshop	7
11/10/2020	Salt Wise Webinar	1
11/24/2020	sat Wise Webinar	1

- ae. Brief explanation on Winter Road Management reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page*

See attached Snow and Ice Control Policy

Internal (Staff) Education & Communication

- af. Has training or education been held for municipal or other personnel involved in implementing each of the pollution prevention program elements? Yes No Unsure

If yes, describe what training was provided (250 character limit):

SWPPP facility training ,stormwater related webinars, efficient sweeping equipment operations and winter maintenance.

When: SWPP/quarterly, sweepin...

How many attended: 7

- ag. Describe how the municipality has kept the following local officials and municipal staff aware of the municipal storm water discharge permit programs and its requirements.

Elected Officials

Committee and Board meetings, Plan Commission meetings.

Municipal Officials

Staff and Development meetings.

Appropriate Staff (such as operators, Department heads, and those that interact with public)

As work orders are issues and/or as new requirements are discussed and implemented.

- ah. Brief explanation on Internal Education reporting. *If you marked Unsure for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

Board approval is required for SWMAs for developments. Updates and review of the annual MS4 permit is made available for village staff and elected officials. Staff refresher training when work orders are created and external training is available.

Form 3400-224 (09/20)

Minimum Control Measures - Section 7 : Complete

7. Storm Sewer System Map

- a. Did the municipality update their storm sewer map this year?

Yes No Unsure

If yes, check the areas the map items that got updated or changed:

Storm water treatment facilities

Storm pipes

Vegetated swales

Outfalls

Other - Describe below

- b. Brief explanation on Storm Sewer System Map reporting. *If you marked Unsure for an question for any questions above, justify the reasoning. Limit response to 250 characters and/or attach supplemental information on the attachments page.*

The MS4 map is updated to the village's GIS as new development information becomes available. A final review is conducted prior to submittal for the annual report.

Final Evaluation - Complete

Fiscal Analysis

Complete the fiscal analysis table provided below. For municipalities that do not break out funding into permit program elements, please enter the monetary amount to your best estimate of what funding may be going towards these programs.

Annual Expenditure Reporting Year	Budget Reporting Year	Budget Upcoming Year	Source of Funds
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Element: Public Education and Outreach

1380	1264	1840	<u>General revenue fund</u>
120	136	160	<u>Storm water utility</u>

Element: Public Involvement and Participation

1380	1264	1840	<u>General revenue fund</u>
120	136	160	<u>Storm water utility</u>

Element: Illicit Discharge Detection and Elimination

1380	1264	1840	<u>General revenue fund</u>
120	136	160	<u>Storm water utility</u>

Element: Construction Site Pollutant Control

1000	1000	1000	<u>General revenue fund</u>
5000	5000	5000	<u>Permit fee and/or deposit/escrow</u>

Element: Post-Construction Storm Water Management

11000	8000	8000	<u>General revenue fund</u>
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Element: Pollution Prevention

27881	27200	2900	<u>General revenue fund</u>
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Other (describe)

MS4 Map update			
1200	500	500	<u>General revenue fund</u>

Other (describe)

Stormwater Quality Management			
14145	11500	12880	<u>General revenue fund</u>

Other (describe)

Stormwater Quality Management

1230

1000

1120

Storm water utility

Please provide a justification for a "0" entered in the Fiscal Analysis. *Limit response to 250 characters.*

Water Quality

a: Were there any known water quality improvements in the receiving waters to which the municipality's storm sewer system directly discharges to?

Yes No Unsure If Yes, explain below:

b: Were there any known water quality degradation in the receiving waters to which the municipality's storm sewer system directly discharges to?

Yes No Unsure If Yes, explain below:

c: Have any of the receiving waters that the municipality discharges to been added to the impaired waters list during the reporting year?

Yes No Unsure

d: Has the municipality evaluated their storm water practices to reduce the pollutants of concern?

Yes No Unsure

Storm Water Quality Management

a. Has the municipality completed or updated modeling in the reporting year (relating to developed urban area performance standards of s. NR 151.13(2)(b)1., Wis. Adm. Code)? Yes No

b. If yes, enter percent reduction in the annual average mass discharging from the entire MS4 to surface waters of the state as compared to implementing no storm water management controls:

Total suspended solids (TSS)

Total phosphorus (TP)

Additional Information

Based on the municipality's storm water program evaluation, describe any proposed changes to the municipality's storm water program. *If your response exceeds the 250 character limit, attach supplemental information on the attachments page.*

Requests for Assistance on Understanding Permit Programs

Would the municipality like the Department to contact them about providing more information on understanding any of the Municipal Separate Storm Sewer Permit programs?

Please select all that apply:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Pollutant Control
- Post-Construction Storm Water Management
- Pollution Prevention
- Storm Water Quality Management
- Storm Sewer System Map
- Water Quality Concerns
- Compliance Schedule Items Due
- MS4 Program Evaluation

Required Attachments and Supplemental Information

Any other MS4 program information for inclusion in the Annual Report may be attached on here. Use the Add Additional Attachments to add multiple documents.

Upload Required Attachments (15 MB per file limit) - [Help reduce file size and trouble shoot file uploads](#)

*Required Item

Note: To replace an existing file, use the 'Click here to attach file ' link or press the to delete an item.

Storm Sewer System Map

 File Attachment

[MS42021.pdf](#)

Attach - Other Supporting Documents

AR WintRdMain

 File Attachment

[2.pdf](#)

AR SWGroupReport

 File Attachment

[2020MS4ReportingWC.pdf](#)

AR LeafYardMgmt

 File Attachment

[2.pdf](#)

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

Attach - Permit Compliance Documents

EO Program

 File Attachment

[2.pdf](#)

IP Program

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IDDE Program

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CS Program

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PCSSW Program

 File Attachment

[2.pdf](#)

PP BMPInventory

 File Attachment

[StructureInventory.pdf](#)

PP BMPInsp

 File Attachment

[2.pdf](#)

(To remove items, use your cursor to hover over the attachment section. When the drop down arrow appears, select remove item)

Sign and Submit Your Application

Steps to Complete the signature process

1. Read and Accept the Terms and Conditions
2. Press the Submit and Send to the DNR button

NOTE: For security purposes all email correspondence will be sent to the address you used when registering your WAMS ID. This may be a different email than that provided in the application. For information on your WAMS account click [HERE](#).

Terms and Conditions

Certification: I hereby certify that I am an authorized representative of the municipality covered under Mukwonago, Village MS4 Permit for which this annual report or other compliance document is being submitted, and that the information contained in this submittal and all attachments were gathered and prepared under my direction or supervision. Based on my inquiry of the person or persons under my direction or supervision involved in the preparation of this document, to the best of my knowledge, the information is true, accurate, and complete. I further certify that the municipality's governing body or delegated representatives have reviewed or been apprised of the contents of this annual report. I understand that Wisconsin law provides severe penalties for submitting false information.

Signee (must check current role prior to accepting terms and conditions)

- Authorized municipal contact using WAMS ID.
- Delegation of Signature Authority (Form 3400-220) for agent signing on the behalf of the authorized municipal contact.
- Agent seeking to share this item with authorized municipal contact (authorized municipal contact must get WAMS id and complete signature).

Name: Ronald R Bittner

Title: Public Works Director

Authorized Signature.

- I accept the above terms and conditions.

Signed by : i:0#.f|wamsmembership|rrb727 on 2021-03-26T10:35:49

You have already signed and submitted this application to the DNR. Please [contact the Wisconsin DNR](#) for assistance.

After providing the final authorized signature, the system will send an email to the authorized party and any agents. This email will include a copy to the final read only version of this application.

Village of Mukwonago
2.2 Public Involvement & Participation
2021-2024

Program Description: The Village of Mukwonago maintains membership with the Waukesha County Stormwater Group. It is through this partnership that many Public Involvement and Participation targets are achieved. The below table addresses practices that are completed by the Village, independent of the Waukesha County Stormwater Group.

Topic	Delivery Mechanism	Target Participant	Responsible Party	Target Dates/Frequency
Annual Report	Website Notice, Board Meeting	General public, public employees, residents.	Director of Public Works	Annual
Storm Water Management Program	Website Notice, Board Meeting	General public, public employees, residents.	Director of Public Works	When updates occur.
Storm Water Ordinance Updates/Development	Website Notice, Board Meeting	General public, public employees, residents, businesses, contractors, developers.	Director of Public Works	When updates occur.
Volunteer Activity - Coordinated by Waukesha County Stormwater Group	Various	Various	Waukesha County Stormwater Group	Various
Volunteer Activity - Coordinated by Community Group	Stream Monitoring	General public, residents	Community Group	Annual
Volunteer Activity - Coordinated by local businesses & community groups	Cleanup Event	General public, residents	Local Businesses & Community Groups	Annual

Note: Per permit section 2.2.4, participants may include general public, public employees, residents, businesses, contractors, developers, industries, and/or other appropriate audience.

Village of Mukwonago
2.1 Public Education and Outreach
2021-2024

Program Description: The Village of Mukwonago maintains membership with the Waukesha County Stormwater Group. It is through this partnership that many Public Education and Outreach targets are achieved. The below table addresses practices that are completed by the Village, independent of the Waukesha County Stormwater Group.

Topic No.	Topic	Delivery Mechanism	Target Audience	Responsible Party	Target Date/Frequency
1	Illicit Discharge Detection & Elimination				
	Waukesha County Stormwater Group Activity	Various	Various	Waukesha County Stormwater Group	Various
2	Household Hazardous Waste Disposal/Pet Waste Management/Vehicle Washing				
	Waukesha County Stormwater Group Activity	Various	Various	Waukesha County Stormwater Group	Various
	Host site for Waukesha County Hazardous Waste Recycling	Other	Residents	Village Department of Public Works	Annual
	Electronics Recycling	Other	Residents	Village Department of Public Works	Annual
3	Yard Waste Management/Pesticide and Fertilizer Application				
	Waukesha County Stormwater Group Activity	Various	Various	Waukesha County Stormwater Group	Various
4	Stream and Shoreline Management				
	Waukesha County Stormwater Group Activity	Various	Various	Waukesha County Stormwater Group	Various
5	Residential Infiltration				
	Waukesha County Stormwater Group Activity	Various	Various	Waukesha County Stormwater Group	Various
6	Construction Site and Post-Construction Storm Water Management				
	Waukesha County Stormwater Group Activity	Various	Various	Waukesha County Stormwater Group	Various
	Village staff routinely meet with HOA groups and residents regarding stormwater and pond maintenance.	Meeting	Residents	Village staff	
7	Pollution Prevention				
	Waukesha County Stormwater Group Activity	Various	Various	Waukesha County Stormwater Group	Various
	Waukesha County workshop on composting, rain barrels, green cleaning, & more	Workshops	General public, residents	Waukesha County Stormwater Group	At least once per permit term
8	Green Infrastructure/Low-Impact Development				
	Waukesha County Stormwater Group Activity	Various	Various	Waukesha County Stormwater Group	Various
	Pre-Construction Meeting	Government Meeting	Businesses, Contractors, Public Empl	Village Department of Public Works	When development occurs

Permit Requirements:

2.1.1 The program has a plan for addressing all 8* topics in Table 1 at least once during the permit term.

2.1.2 The program has a plan for using at least 4* delivery mechanisms in Table 2 each year, with at least 2* from the Active/Interactive column.

Active/Interactive

- Educational activities (school presentations, summer camps)
- Informational booth at event
- Targeted group training (contractors, consultants, etc.)
- Government event (public hearing, council meeting)
- Workshops
- Tours
- Other

Passive

- Passive print media (brochures at front desk, posters, etc.)
- Distribution of print media (mailings, newsletters, etc.) via mail or email
- Media offerings (radio and TV ads, press release, etc.)
- Social media posts
- Signage
- Website
- Other

**Village of Mukwonago
Illicit Discharge Detection and Elimination Program
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The Village is covered under the Wisconsin Department of Natural Resources' (WDNR) WPDES Municipal Separate Storm Sewer System Permit No. WI-S050075-3, reissued on May 1, 2019. The intent of the MS4 permit program is to minimize the discharge of pollutants into the local lakes, streams and wetlands via the Village's storm water conveyance system. The Village of Mukwonago has been conducting an Illicit Discharge Detection and Elimination (IDDE) program since 2010, when it was first required under the WPDES Municipal Separate Storm Sewer System (MS4) Permit no. WI-S050075-1. After reviewing the Department of Natural Resources' (WDNR) Program Guidance document no. 3800-2012-01 on Illicit Discharge Detection and Elimination programs, the Village revised the original program to focus on areas where problems are more likely to be detected.

The Village of Mukwonago is located within the (IL) Fox River Basin. A Total Maximum Daily Load analysis (TMDL) is currently under development for this basin and is anticipated to be completed in 2023-2025. This TMDL is anticipated to address the Total Suspended Solids (TSS) and phosphorus that is impairing waterways in the basin.

Administration

- The Village Public Works Director will administer the illicit discharge program.
- The Village Fire Chief will administer the spill response program.
- This procedure shall be distributed to all Village employees who may receive notice of a spill or illicit discharge.
- See Chapter 34-113 of the Village Code of Ordinances.

Emergency Contact Information

- | | |
|--|----------------|
| ▪ Emergency Services (police, fire, ambulance) | 911 |
| ▪ Public Works Director | (262) 363-6447 |
| ▪ Village of Mukwonago Fire (non-emergency) | (262) 363-6426 |
| ▪ Village of Mukwonago Police (non-emergency) | (262) 363-6435 |
| ▪ DNR Hazardous Spill Line | (800) 943-0003 |
| ▪ City of Waukesha Fire Department | (262) 524-3651 |
| ▪ City of Milwaukee Fire Department | (414) 286-8948 |
| ▪ Poison Control Center | (800) 222-1222 |

Spill and Illicit Discharge Response Procedure

- When Village staff is made aware of a spill or illicit discharge with the potential to contaminate the municipal storm sewer system, the individual receiving the call shall immediately notify the Village Public Works Director. The Village's emergency government director / fire chief following the chain of command found within the Village's emergency government procedure shall also be notified if the spill / illicit discharge is suspected of reaching local waterways. The public works director shall be the primary contact for the spill response program, with the emergency government director / fire chief being the contact for
- Persons in the vicinity of a spill should immediately evacuate the premises (except for employees with training in spill response). If the spill appears hazardous, immediately notify emergency response personnel listed above.
- Consult with the trained hazardous waste personnel for waste disposal procedures and never wash spills into a storm drain.
- Any illicit discharges that are discovered at an outfall shall be traced upstream through the storm sewer system to identify the source of the discharge.
- Action against the violation should be taken as soon as possible. If it will take more than 30 days to remove the illicit connection or if the illicit discharge is from a facility with WPDES permit coverage, the Wisconsin Department of Natural Resources shall be contacted to discuss an appropriate action and/or timeframe for removal.

**Village of Mukwonago
Illicit Discharge Detection and Elimination Program
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- All spills/illicit discharges, regardless of size, should be reported as soon as possible to the public works director and the emergency government director / fire chief (if the spill / discharge is suspected of having reached the local streams, lakes or wetlands). The public works director / emergency government director/fire chief will coordinate clean up with the appropriate trained emergency response personnel.
- All spills shall be reported to the Wisconsin Department of Natural Resources within 24 hours after being made aware of the spill. The emergency government director / fire chief shall coordinate this notification immediately to the Department of Natural Resources if the spill/discharge is suspected of having reached local streams, lakes or wetlands. The 24-hour toll free hot line to report spills to the Department of Natural Resources is **1-800-943-0003**.
- If the spill/illicit discharge reaches a waterway and has the potential to contaminate downstream resources, the emergency government director/fire chief shall immediately notify the officials of the downstream communities that may be impacted by the spill, following the procedure in the emergency government procedure.
- Any dye testing within the Village shall be reported to the Wisconsin Department of Natural Resources in advance of the time and location.
- If an illicit discharge has been tracked upstream to an interconnection point or outfall from another municipality or originates from the Village but discharges directly to a MS4 or property under the jurisdiction of another municipality, the Village shall notify the appropriate municipality within one working day.

Field Screenings

- The Village completed the initial field screening at all major outfalls during dry weather periods. Major outfalls were identified on the official storm sewer map from the Village's Storm Water Management Plan.
- The Village has evaluated the outfalls to be inspected each year through a "priority" designation process based on land use and known storm water outfall concerns.
- The ongoing Illicit Discharge Detection and Elimination Program has been determined based upon the results of the initial field screening and subsequent outfall screenings.
- Any citizen complaint will be investigated with an inspection of the discharge location in question.
- Inspections/field screenings shall be recorded on the Village of Mukwonago Illicit Discharge Field Screening Sheet.

Action Levels for Sample Parameters

- Any samples with results above the minimum threshold for the parameters below shall be traced back to the source to stop the discharge.

Parameters	Action Level	Illicit Sources	Non-Illicit Sources
Ammonia	0.1 mg/l	Sanitary sewage and industrial wastewater	Pets, wildlife and potentially WPDES permitted discharges
Detergents	0.5 mg/l	Industrial cleansers, commercial wash water and sanitary sewage	Residential car washing
pH	Less than 6 or greater than 9	Industrial wastewater and concrete truck wash-out	Groundwater and WPDES permitted discharges
Total Chlorine	Detection or positive test unless associated with a WPDES permitted discharge at	Industrial wastewater, swimming pools and sanitary sewage	WPDES permitted discharges

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Illicit Discharge Detection and Elimination Program
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Parameters	Action Level	Illicit Sources	Non-Illicit Sources
	background water supply levels		
Total Copper	0.1 mg/l	Copper-based product use and manufacturing	WPDES permitted discharges
Phenol	Detection or positive test	Chemical, textile, paint, resin, tire, plastic, electronics, and pharmaceutical manufacturing	None
Fluoride	Detection above background groundwater or water supply levels	Commercial or industrial wastewaters with a water supply component	Groundwater and WPDES permitted discharges
Potassium	10 mg/l	Sanitary sewage and industrial wastewater	Groundwater and WPDES permitted discharges

Violations

- Whenever Village staff identify a violation of the Illicit Discharge ordinance, the Village may order compliance by written notice of violation to the responsible party.
- Such written notice of violation may require the following without limitation:
 - The elimination of illicit connections or discharges.
 - That violating discharges, practices, or operations shall cease and desist.
 - The abatement or remediation of storm water pollution or contaminated hazards and the restoration of any affected property.
 - Any responsible party that fails to comply with a notice of violation under this section shall be subject to further enforcement action under the enforcement provisions of the Storm Water Management and Erosion Control Enforcement Procedures.

Enforcement Measures

See Chapter 34-114 of the Village Code of Ordinances.

- Forfeiture
- Stop Work Order
- Permit Revocation
- Injunction
- Declared Nuisances
- Emergency Action
- Citation

Priority Outfalls

The Village of Mukwonago has revised the original Illicit Discharge Detection and Elimination (IDDE) program to focus on areas where problems are more likely to be detected. Department of Natural Resources' (WDNR) Program Guidance document no. 3800-2012-01 on Illicit Discharge Detection and Elimination programs has been used to develop the current IDDE program.

The Village's revised IDDE program breaks down the MS4 outfalls into 3 inspection categories:

1. Priority Outfalls to be inspected annually,
2. Non-Priority Major Outfalls to be inspected once per 5-year permit term,

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3. Non-Priority Minor Outfalls to be inspected on a complaint basis or based on professional judgement of staff (not in the regular inspection rotation).

Location of MS4 Priority Outfalls to be Inspected Annually

	Structure ID	Inspection Category	Outfall Size (inches)/ Grass Swale	Outfall Location
1	ST224001	Priority (Major)	36"	W end of Roberts Rd., N side of sidewalk SE of High School
2	ST234001	Priority (Major)	72"	SW corner of pond W of 370 CTH NN
3	GSOFO02	Priority (Major)	Grass Swale	E of Holz Pkwy, SW corner of L'BRI Pure n' Natural property
4	GSOFO04	Priority (Major)	Grass Swale	E of Holz Pkwy, NW of Empire. SW edge of wood line
5	ST252001	Priority (Major)	48"	SW corner of property at 100 McKenzie Dr.
6	ST252002	Priority (Major)	36"	W side of Driveway SW of BMO Harris Bank
7	ST264001	Priority (Minor)	27"	S of Plank Rd. dead end, W of railroad tracks
8	ST271005	Priority (Minor)	16"	S of Minors Dr., between 705 & 647 Minors Dr.
9	ST271006	Priority (Minor)	16"	E outfall, S of Minors Dr., between 647 & 633 Minors Dr.
10	ST271007	Priority (Minor)	24"	W outfall, S of Minors Dr., between 647 & 633 Minors Dr.
11	ST271008	Priority (Minor)	36"	S of Minors Dr., between 609 & 603 Minors Dr.
12	ST351002	Priority (Major)	36"	S of S. Rochester Rd. on the SW side of the railroad bridge.
13	ST351008	Priority (Minor)	22"	N of River Crest Ct. between NAPA Auto Parts and Village Hall
14	ST361001	Priority (Minor)	24"x38"	N of Maple Ave, between E Wolf Run and 240 Maple Ave.
15	ST361003	Priority (Major)	48"x76"	SE side of East Wolf Run across from Walmart
16	ST011055	Priority (Minor)	16"	Boxhorn Dr & Rochester, South of Touchpad Electronics/MS2I Holdings
17	ST011078	Priority (Major)		Boxhorn Dr & Rochester St, SE corner of Banker Wire
18	ST011103	Priority (Major)	36"	Boxhorn Dr & Hill Cr, Super Products West Outfall
19	ST011102	Priority (Minor)	24"	Boxhorn Dr. & Hill Ct, Super Products
20	ST011101	Priority (Minor)	36"	Boxhorn Dr & Rochester, Triple Crown Prod/Quernemoen Mukwonago LLC
21	ST011014	Priority (Major)	36"	Boxhorn & Rochester, Nearest outfall to HWY 83

**Location of Non-Priority Major Outfalls to be Inspected
Once Per 5 – Year MS4 Permit Term**

	Structure ID	Inspection Category	Outfall Size/ Grass Swale	Outfall Location
1	GSOFO01	Major	Grass Swale	SW corner of Holz Pkwy & Fox St. S of Fox St.
2	GSOFO03	Major	Grass Swale	SE corner of 941 Perkins Dr., property
3	ST193001	Major	12"	S of Edgewood Ave., just W of the Edgewood Greenhouse driveway

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4	ST194001	Major	36"	S of Grey Fox Trail and Cardinal Ct. intersect, N side of pond.
5	ST224002	Major	21"	SE corner of W School Rd. CTH NN intersection
6	ST232001	Major	30"	Behind Mukwonago Family Dental, S side of the pond.
7	ST243002	Major	30"	N of CTH NN, between CTH ES & River Park Circle W
8	ST251006	Major	30"	E of Eastern Trail, between 450 & 446 Eastern Trail
9	ST254001	Major	48"x36"	E of the East Wolf Run turnaround.
10	ST254002	Major	36"	SE of East Wolf Run, NW corner of the pond.
11	ST262001	Major		In the woods toward the SE corner of baseball diamonds on CTH LO
12	ST263001	Major	48"	S side of Wahl Ave., just before the circle turn around
13	ST263005	Major	24"	N outfall, W of Atkinson St. & Shore Dr. Intersection
14	ST272001	Major	24"	S side of the pond, behind 622 Augusta Dr.
15	ST272002	Major	42"	N side of the pond, behind 734 Pinehurst Dr.
16	ST272006	Major	42"	SW corner of 517 Valhalla Dr. property
17	ST352001	Major	42"	W of Bay View Ct.
18	ST353009	Major	36"	W side of Main St., at the Honeywell Rd. & Main St. intersection
19	ST354005	Major		W Mukwonago Dr. Apollo Ct. intersect. W of Mukwonago Dr.
20	ST361002	Major	56"	SE of East Wolf Run, SW corner of the pond.
21	ST363002	Major	66"	S outfall, E side of STH 83, 415' S of E. Wolf Run & 83 Intersection
22	ST363003	Major	66"	N outfall, E side of STH 83, 415' S of E. Wolf Run & 83 Intersection
23	ST363008	Major	36"	S side of the pond, S of Wolf Run

Criteria used to designate an outfall as a "Priority" included: land-use (industrial / business parks, institutional, retail/commercial, transportation), amount of imperviousness in a drainage area, age and density of residential areas, and approximate age of infrastructure. The Village of Mukwonago has experienced new development and redevelopment growth in the past 2 decades, with new or replaced infrastructure which minimizes the potential for illicit discharges due to older or failing infrastructure. Major outfalls in these new or redeveloped areas were not included in the priority outfall category.

Village staff previously found one discharge that required follow-up under the previous IDDE program since 2010. The discharge was sampled at outfall GSOF002 ("H"). Outfall GSOF002 ("H") has been included as a priority outfall and will be inspected annually by Village staff.

The remainder of the MS4 outfalls in the Village of Mukwonago are categorized as "minor": pipe sizes of less than 36 inches in diameter associated with a drainage area of less than 50 acres or an industrial land use of less than 2 acres. These outfalls will not fall into the annual or once every 5 years' inspection rotation but may be inspected if a complaint is received or if circumstances change and Village staff determine it would be beneficial to inspect any of these locations.

A portion of the Village's roadside stormwater conveyance system includes grass swales. Swale systems can be inspected by visual observations for dead vegetation due to excessive standing water or pollutants in discharges that would kill the vegetation; staining on pipes and structures that drain to the swales, staining

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or water marks on culverts in swales, etc. Visual observations of the swale systems should be done on a complaint basis or as staff determine necessary.

Cross Connection Program

As part of the Village's overall storm water management and pollutant reduction efforts, a program to address potential cross connections between sewer systems and the municipal storm water conveyance system has been developed to minimize the potential discharges of bacteria and related pathogens into local surface waters. This cross-connection program includes three components:

1. Identification and evaluation of potential cross connection areas
2. Follow-up response procedures when a situation is discovered and/or a complaint is received.
3. Education and outreach efforts related to the discharge of bacteria into local surface waters via the municipal storm water conveyance system

Sanitary Sewer Infiltration into Storm Water Conveyance Systems

Traditional cross connection programs have addressed the issue of pollutants from sewer systems getting into drinking water systems. Capacity, Management, Operation, and Maintenance (CMOM) programs exist in many communities to reduce the amount of storm water and groundwater from entering the sanitary sewer systems. These programs have been in place for many years, with common activities including inspections, plumbing code updates, education and outreach efforts to the general public, industry specialists and inspectors, and community leaders.

This new aspect of discharges resulting from cross connections concerns the discharge of sewer water into municipal separate storm sewer systems, which then discharge directly to the downstream receiving waterways. Municipal storm water conveyance systems do not typically have treatment systems to remove pollutants, particularly bacteria. Therefore, the focal point of this type of cross connection program is source identification and control.

Examples of sources of cross connections between sewer systems and storm water systems include old and deteriorating sewer system infrastructure, resulting in discharges that may seep into storm sewer conveyance systems. Leaky sewer lines located in areas of seasonal high groundwater may not always discharge into nearby storm sewers during the year but may result in some discharges when the groundwater table is highest after snow melt and during spring rains, allowing accumulated pollutants underground to mobilize and enter storm sewer systems. In addition, frequent rain events and flooding may also result in higher than normal groundwater levels or flood waters carrying incidental sewer system discharges into the storm water system and downstream receiving waters. Elevation differences resulting in areas of a community that are higher or uphill of other areas can also lead to the infiltration of sewer water into storm sewer systems. Older, deteriorating public sewer lines or private sewer laterals that are located in uphill areas can potentially lead to accumulated pollutants located underground infiltrating into the storm sewers downgradient from the older, leaking sanitary sewers. Additional sources of potential site-specific sewer system discharges into the municipal separate storm sewer system include incorrect connections made during construction or reconstruction projects and underground septic systems.

The Village of Mukwonago's municipal separate storm sewer system (MS4) is comprised of both vegetated swales along roadsides and curb and gutter with underground pipe to convey storm water safely downstream.

A vegetated swale system typically allows for infiltration of storm water runoff during normal rain events. This allows pollutants carried in storm water runoff to soak into the underlying soils, preventing these

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pollutants from reaching the downstream lakes, streams and wetlands. Large rain events resulting in localized flooding or high groundwater tables may result in deteriorating sewer infrastructure discharges into the vegetated swale systems. Site observations and follow-up of complaints of visual and odor evidence of these discharges may result in the identification of sources of sewer-storm water system cross connections.

A curb and gutter system with storm pipe underground will allow storm water to flow into inlets along the curbs, then into a network of underground storm pipe consisting of many different sizes, ages, and conditions. As part of a municipal separate storm sewer system, storm water discharges from these storm pipes to local streams, lakes and wetlands, often without flowing through a treatment system first. Privately owned storm sewer under parking lots and private roads also drain into the Village's storm sewer system. Older, deteriorating storm pipe may have cracks or damage, or may have gaps where sections of pipe have moved apart from each other over time. Non-storm water flows can enter storm pipe in these damaged areas, resulting in pollutants mixing with storm water flows and impacting local waterways.

Identification and Evaluation of Potential Cross Connection Areas

A desktop analysis of the sewer systems that could potentially leak into the nearby municipal storm water conveyance system can identify sites in the Village of Mukwonago to be evaluated further for potential infiltration of sanitary sewer discharges into the Village's storm sewer system. Information including locations and depths of sanitary sewer and storm sewer systems, local topography, drainage areas and outfall locations of the storm sewer systems and known shallow groundwater elevations can be interpreted to identify potential areas of cross connections or underground discharges to the storm sewer system.

Routine sanitary sewer inspections may include dye testing, smoke testing, flow monitoring televising, and/or the use of other sensors and technology to get identify and locate potential pipe defects in the sewer system. Results of sanitary sewer system inspections, particularly deteriorating or damaged pipe segments, should be shared between wastewater facility staff and public works staff to evaluate the potential for infiltration into the nearby storm water conveyance system. New information on damaged sewer segments and potential sewer repair improvements may lead to discovery of infiltration into storm systems via desktop review, as discussed above.

Areas identified in a desktop review as potential cross connection areas should be observed for potential sewer-to-storm water system connections after larger rain events and during seasonal high groundwater levels, typically during spring and early summer through IDDE outfall inspections and results of sanitary sewer and/or storm sewer inspections. Inspections of existing storm pipe segments for staining, flows and odors that could be associated with improper sewer connections and leaky underground septic systems should be completed in association with the Village's Illicit Discharge Detection and Elimination (IDDE) screening program. Further investigation may include dye testing in the sanitary sewer during periods of wet weather/high ground water to determine if/where dye water shows up in surface waters and televising storm sewer in areas in proximity to potential sewer leaks. Solutions to discovered cross connections and infiltration into the storm system may include sewer lining projects, disconnections or repairs of privately owned sewer laterals and sumps, and other sewer system and/or storm system repairs, depending on the site and the situation.

Proposed Response Procedures for Potential Sewer-Storm Water Cross Connections

Inclusion of activities to address sewer system discharges into storm water systems and ultimately local lakes, streams and wetlands can be incorporated into the Village's existing IDDE program. The IDDE program response procedures include sampling of flows observed at storm water outfalls as a result of periodic inspections or complaints. Results of the sampling and an analysis of the contributing drainage area help to identify the potential source of the pollutants. The Village of Mukwonago's existing Illicit Discharge Detection and Elimination ordinance provides structure and enforcement authority for the Village to require resolution to observed discharges to the municipal separate storm sewer system, including suspected cross connections or discharges from the sanitary sewer system. Cooperation between Village

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wastewater treatment facility and public works (storm water) staff will be an important component in the successful implementation of this program.

Education and Outreach Efforts relating to Sewer-Storm Water System Cross Connections

An education and outreach program describing the contributors to and impacts of excessive bacteria and other pollutant pollution to the local lakes, streams and wetlands should be developed and conducted throughout the Village. Target audiences for this storm water education topic include residents, private property owners, industry specialists and inspectors, including those in the plumbing and underground infrastructure inspection industries, and community leaders, decision makers and elected officials. Cost-effective, uniform messaging for this topic will most likely be achieved through development of a multi-agency/municipality outreach program. Current partners for the Village of Mukwonago to collaborate with may include partners in Waukesha County' Stormwater Education Program. A cooperative effort to share uniform information on the impacts of sanitary sewers and bacteria/pollutant inflows into the storm water system and the local waterways would be a cost-effective and efficient way for local communities to implement their MS4 permits.

ILLICIT DISCHARGE DETECTION & ELIMINATION (IDDE) INSPECTION REPORT

SECTION 1: Inspection Data

Outfall ID:		Subwatershed:	
Inspection Date:		Inspection Time:	
Investigators:		Form Completed By:	
Temperature (°F):	Rainfall In Last:	24 hours (in.):	48 hours (in.):
Nearest Intersection / Location:			
Land use in drainage area:			
Notes (e.g., origin of outfall, if known):			

SECTION 2: Outfall Description

Location Description	Material	Shape	Dimensions (in. by in.)	Submerged?	Submerged Depth (ft.)
<input type="checkbox"/> Closed Pipe <input type="checkbox"/> Open Drainage					
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No				
Flow Description:	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial				
Depth (ft.)	Width (ft.)	Length (ft.)	Volume (cu. ft.)	Time of Travel (sec.)	Time To Fill (sec.)

SECTION 3: Physical Indicators Present at Outfall

Indicator	Description	Indicator	Description
<input type="checkbox"/> Odor	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/Gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other : _____	<input type="checkbox"/> Outfall Damage	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Corrosion <input type="checkbox"/> Peeling Paint
<input type="checkbox"/> Color	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other: _____	<input type="checkbox"/> Deposits/Stains	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other: _____
<input type="checkbox"/> Turbidity	<input type="checkbox"/> 1 - Slight Cloudiness <input type="checkbox"/> 2 - Cloudy <input type="checkbox"/> 3 - Opaque	<input type="checkbox"/> Abnormal Vegetation	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited
<input type="checkbox"/> Floatables	<input type="checkbox"/> Sewage <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (Oil Sheen) <input type="checkbox"/> Other : _____	<input type="checkbox"/> Poor Pool Quality	<input type="checkbox"/> Odors <input type="checkbox"/> Suds <input type="checkbox"/> Floatables <input type="checkbox"/> Yellow <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other: _____

SECTION 4: Lab Analysis

1. Sample for the lab? <input type="checkbox"/> Yes <input type="checkbox"/> No	2. If yes, collected from: <input type="checkbox"/> Flow <input type="checkbox"/> Pool	
3. Measurements:	Sample Temperature (°F):	pH:
	Copper (mg/l):	Phenols (mg/l):
	Ammonia (mg/l):	Chlorine (mg/l):
		Total Coliform:
		Surfactants (mg/l):
		Detergents (mg/l):

Comments or Other Concerns (e.g., trash or needed infrastructure repairs)?

Village of Mukwonago

2.4 Construction Site Pollutant Control Program

March 2021

The Village of Mukwonago's Construction Site Pollutant Control Program aims to minimize the amount of total suspended solids (TSS) and other associated pollutants that enter local lakes, streams and wetlands as a result of construction site land disturbance over one acre. The Village has adopted ordinances which dictate the site plan requirements for new and redevelopment sites (Ch. 34-107 through 34-114).

Permit Process, Administrative Procedures, & Erosion and Sediment Control Plan Review

When an application for construction or reconstruction with over one acre of land disturbance is received by Village staff, the Village Engineer follows the processes outlined in Checklist A. Preconstruction erosion control plan review is completed by the Village Engineer (Checklists 1, 2, and B).

Inspections

Site inspections occur at the frequency listed in Table 1.

Table 1.

Site	Inspection Frequency
(1) All sites one acre or more in size	• New projects shall be inspected within the first two weeks of commencement of land disturbing activity.
	• All active sites shall be inspected at least once every 45 days
	• All inactive sites shall be inspected at least once every 60 days.
(2) Follow up inspection	• Follow up inspections are required within 7 days of any sediment discharge or inadequate control measure, unless corrections were made and observed by the inspector during initial inspection or corrections were verified via photographs submitted to the inspector.
(3) Final inspection	• Confirm that all graded areas have reached final stabilization and that all temporary control measures are removed, and permanent storm water management BMPs are installed as designed.

Complaints & Enforcement

Complaints relating to construction site pollution are handled promptly. Village staff visit the site and utilize the Enforcement Procedure Flowchart (attached) when necessary.

Attachments

Checklist 1

Checklist 2

Checklist A

Checklist B

Erosion Control Enforcement Procedure Flowchart



Checklist #1

Site Plan Map Requirements

Erosion Control Plan Requirements

For All Sites

All items on this list are required for all Erosion Control and Storm Water Management Permit Applications. Additional items must be shown on erosion control plans for sites that disturb 1 Acre or more (see Checklist #2) and storm water management plans (see Checklist #3). A site plan map and supporting data of site conditions at a scale of 1 inch equals no more than 100 feet (unless otherwise noted) shall delineate or display the following applicable items.

The following existing and proposed site features must be provided for all permit applications. Items listed below must be shown on the site and within an appropriate distance in each direction of the site boundaries.

- 1. Development title, graphic scale and north arrow;
- 2. Property location description by public land survey system (1/4 section, section, township, range, county);
- 3. Location map (smaller scale) showing the site location within a public land survey section or subdivision, oriented the same as par. 4 below;
- 4. Ownership boundaries, bearings, lengths and other survey references that will accurately identify the site location for all land divisions;
- 5. Lot numbers and dimensions, including outlots for all land divisions;
- 6. Name and complete **contact information** for the applicant, landowner, developer and project engineer or planner;
- 7. Surveyor's certificate, signed, dated and sealed for all land divisions;
- 8. Sheet numbers and **revision dates** on every page;
- 9. Existing **site topography** at a contour interval not to exceed 2 feet, including **spot elevations** for physical features such as storm sewers (invert elevations), retaining walls, road and ditch centerlines and topographic high and low points;
- 10. Location and name, if applicable, of all lakes, streams, channels, ditches and other **water bodies** or areas of **channeled flow** on or adjacent to the site;
- 11. Location and name, if applicable, of all **wetlands** and identification of source of delineation. For final land divisions, these boundaries shall be field verified;
- 12. Boundaries of **shoreland zones** and the ordinary high water mark (OHWM) for any navigable water body. For final land divisions, the OHWM boundaries shall be field verified;
- 13. Boundaries and elevation of the **100-year floodplains, flood fringes and floodways**. For final land divisions, these boundaries and elevations shall be field verified.
- 14. Boundaries and soil symbol for each **soil mapping unit** and the identification of all **hydric soils** and defined by the USDA-Natural Resources Conservation Service;
- 15. Locations of all soil borings and **soil profile evaluations** with unique references to supplemental data report forms;
- 16. Location of **primary and secondary environmental corridors**, as defined by the Southeastern Wisconsin Regional Planning Commission. For final land divisions, these boundaries shall be field verified;

- 17. Location and description of **isolated natural area** boundaries as defined by the Southeastern Wisconsin Regional Planning Commission, **woodland areas**, as defined in the storm water ordinance and other **vegetative cover types**;
- 18. Location and descriptive notes for **existing and proposed structures** within 50 feet of the property boundaries and their proposed use, including, but not limited to, buildings and foundations, roads, parking areas, fence lines, access lanes, culverts (include size and type), above ground utilities and retaining walls;
- 19. Location and descriptive notes for other known existing site features including, but not limited to, rock outcrops or other karst features, tile drains, buried utilities, dumps, landfills, manure or other waste storage facilities;
- 20. Boundaries and descriptive notes for all applicable setbacks and for "protective areas" (see ordinance or Checklist #3 for more information);
- 21. Location and descriptive notes for any existing or proposed easements, right-of-ways, vision corners or other known site restrictions. Road right-of-ways and building setbacks shall be in compliance with all applicable administrative codes, adopted plans and ordinances;
- 22. Location and descriptive notes for existing and proposed public dedications of parcels or right-of-ways;
- 23. Location and descriptive notes for preplanned building sites, when limited by site features;
- 24. Location and documentation of any existing well and delineation of any applicable regulatory setbacks, in accordance with ch. NR 811 and 812 Wis. Admin. Code;
- 25. Notes describing source documents, date and measure of accuracy for all applicable mapping features noted above;
- 26. A narrative describing the proposed land disturbing activity, construction timeline and sequencing temporary BMP's to be used to minimize off-site impacts during the construction phase, and proposed methods to stabilize the site following construction.
- 27. A scaled map or plan showing the location of the proposed land disturbance, direction of flow for runoff entering and leaving the disturbed area, upslope drainage area (if known), proposed BMP's existing and proposed slopes, ground cover, drainageways, trees, utilities and other structures within 50 feet of the proposed disturbance.
- 28. Name, address and daytime phone number of the person(s) charged with installing and maintaining all best management practices.
- 29. For underground utility installations, the plans must delineate where utilities will be installed, show the location of the open cut and the topography in the area, and list the total lineal feet to be installed and the lineal feet that will be done by open cut.
- 30. Other site information that the Village of Mukwonago determines is necessary to administer this ordinance.

***NOTE: If necessary, items should be displayed on more than one map to ensure clarity. Each map must include proposed structures, setbacks, easements, right-of-ways, etc.**



Checklist #2 Additional Erosion Control Plan Requirements for Sites with >1 Acre Disturbance

Under Village ordinance, significant grading activity may trigger the need for a storm water permit for construction site erosion control. An erosion control plan is designed to protect downstream water resources and property owners from water pollution and other damage caused by sediment runoff from construction sites. Erosion control plans designed to meet the requirements of the Village ordinance shall adhere to the following guiding principles:

- 1) Propose grading that best fits the terrain of the site, avoiding steep slopes, wetlands, floodplains and environmental corridors;
- 2) Minimize, through project phasing and construction sequencing, the time the disturbed soil surface is exposed to erosive forces;
- 3) Minimize soil compaction, the loss of trees and other natural vegetation and the size of the disturbed area at any one time;
- 4) Locate erosion control BMPs upstream from where runoff leaves the site or enters waters of the state and outside of wetlands, floodplains, primary or secondary environmental corridors or isolated natural areas;
- 5) Emphasize the use of BMPs that prevent soil detachment and transport over those aimed to reduce soil deposition (sedimentation) or repair erosion damage.

Erosion Control Plans Must Include the Following:

1. A **site map** in accordance with Checklist #1. Digital submittal required. All other map elements listed below shall be delineated and labeled at a scale of 1 inch equals no more than 100 feet, unless otherwise noted.
2. North arrow, graphic scale, draft date, name and **contact information** for project engineer or planner and designation of source documents for all map features;
3. Proposed site topography at contour intervals not to exceed two feet, proposed percent slope for all open channels and side slopes and all runoff **discharge points** from the site;
4. Proposed building envelopes and other **land area to be disturbed** and size in acres;
5. All **woodland areas**, those proposed to be lost or transplanted during construction and acres or numbers of each. For woodlands proposed to be lost, show individual trees larger than eight (8) inches in diameter that are located within twenty (20) feet of proposed grading boundaries;
6. Temporary **access drive** and specified surface material (3 to 6 inch clear or washed stone), minimum depth (minimum 12 inches) and minimum 50 feet long;
7. Temporary **flow diversion** devices for upslope or roof runoff until site is stabilized;
8. Temporary **sediment trapping devices** for site perimeter and inlets to culverts and storm drains;
9. Temporary settling basin or other BMP to be used for **site dewatering** during utility or other subsurface work;
10. Temporary **soil stockpile sites** indicating setbacks (minimum 25 feet) from channelized flow, nearby water resources or environmental corridors and the proposed erosion protection methods;
11. **Detailed drawings** and **cross sections** for any sediment traps, basins other major cut or fill areas showing side slopes and elevations;

- 12. Final **stabilization measures** for open channels and erosion protection for pipe and channel inlets, outlets and emergency spillways;
- 13. Location of **proposed utilities**, including standard cross-section for buried utilities, associated easements, labeling the type of utility and notes on erosion control and restoration plans;
- 14. Final **site stabilization** instructions for all disturbed areas, showing areas to be stabilized in acres, depth of applied topsoil (minimum 4 inches), seed types, rates and methodology, fertilizer, sod or erosion matting specifications, maintenance requirements until plants are well established, and other BMPs used to stabilize the site;
- 15. Detailed **construction notes** clearly explaining all necessary procedures to be followed to properly implement the plan including estimated starting date of grading, timing and sequence of construction or demolition, any construction stages or phases, utility installation, dewatering plans, refuse disposal, inspection requirements, and the installation, use and maintenance of BMPs in the plan;
- 16. Location of soil borings and **soil profile evaluations** with surface elevations and unique references to supplemental soil evaluations report forms. Also show estimated seasonal water table depths, which may be shown on a separate map, with sufficient references to the proposed site plan.
- 17. Spill prevention and response procedures.
- 18. Other items specified by the Village of Mukwonago as necessary to ensure compliance with the ordinance.

Provide Supporting Information:

- 1. A **narrative summary** of the erosion control plan, briefly explaining the overall plan and any unique information that led to the selection of BMPs and how the plan meets the guiding principles above.
- 2. **Summary of design data** for any structural BMP such as sediment basins or sediment traps. A professional engineer, licensed in the State of Wisconsin, shall stamp and sign a statement approving all designs and certifying that they have read the requirements of this ordinance and that, to the best of their knowledge, the submitted plans comply with the requirements.
- 3. Open channel design and stabilization data to support the selected BMPs for stabilization.
- 4. **Soil profile evaluation reports** with unique references and elevations that match the map above.
- 5. Estimated time soil stockpiles will exist to support the selected BMPs for erosion control.
- 6. Documentation that proposed utility locations and installation scheduling has been coordinated with the affected utility companies.
- 7. Documentation of any other calculations used to demonstrate compliance with the performance standards in this section.
- 8. Identification of the **primary contacts** for:
 - a. Conducting erosion control **inspections** and how they will make the **inspection logs** available to the Village of Mukwonago.
 - b. Completing site grading and temporary **erosion control practices**.
 - c. Completing final **site restoration and stabilization**.

Summary of Erosion Control Plan Technical Requirements (Ordinance Excerpts)

1. Access Drives and Tracking. Provide access drive(s) for construction vehicles that minimize tracking of soil off site using BMPs such as stone tracking pads, tire washing or grates. Minimize runoff and sediment from adjacent areas from flowing down or eroding access drive.
2. Diversion of Upslope Runoff. Divert excess runoff from upslope land, rooftops or other surfaces, if practicable, using BMP's such as earthen diversion berms, silt fence and downspout extenders. Prevent erosion of the flow path and the outlet.
3. Inlet Protection. Protect inlets to storm drains, culverts and other storm water conveyance systems from siltation until the site is stabilized.
4. Soil Stockpiles. Locate soil stockpiles away from channelized flow and no closer than 25 feet from roads, ditches, lakes, streams, ponds, wetlands or environmental corridors, unless otherwise approved by the Village of Mukwonago. Control sediment from soil stockpiles. Any soil stockpile that remains for more than 30 days shall be stabilized.
5. Cut and Fill Slopes. Minimize the length and steepness of proposed cut and fill slopes and stabilize them as soon as practicable.
6. Channel Flow. Trap sediment in channelized flow before discharge from the site using BMPs such as sediment traps and sediment basins. Stabilize open channels as soon as practicable.
7. Outlet Protection. Protect outlets from erosion during site dewatering and storm water conveyance, including velocity dissipation at pipe outfalls or open channels entering or leaving a storm water management facility.
8. Overland Flow. Trap sediment in overland flow before discharge from the site using BMPs such as silt fence and vegetative filter strips.
9. Site Dewatering. Treat pumped water to remove sediment prior to discharge from the site, using BMPs such as sediment basins and portable sediment tanks.
10. Dust Control. Prevent excessive dust from leaving the construction site through construction phasing and timely stabilization or the use of BMPs such as site watering and mulch – especially with very dry or fine soils.
11. Topsoil Application. Save existing topsoil and reapply a minimum of 4 inches to all disturbed areas for final stabilization, unless otherwise approved by the Village of Mukwonago, such as for temporary seeding or storm water infiltration BMP's. If adequate topsoil does not exist on the site to meet this requirement, it shall be imported or a topsoil substitute such as compost may be used, upon approval by the Village of Mukwonago.
12. Waste Material. Recycle or properly dispose all waste and unused building materials in a timely manner. Control runoff from waste materials until they are removed or reused.
13. Sediment Cleanup. By the end of each workday, clean up all off-site sediment deposits or tracked soil that originated from the permitted site. Flushing shall not be allowed unless runoff is treated before discharge from the site.
14. Final Site Stabilization. All previous cropland areas where land-disturbing activities will not be occurring under the proposed grading plans, shall be stabilized within 30 days of permit issuance. Stabilize all other disturbed areas within 7 days of final grading and topsoil application. Large sites shall be treated in stages as final grading is completed in each stage. Any soil erosion that occurs after final grading or the application of stabilization measures must be repaired and the stabilization work redone.
15. Temporary Site Stabilization. Any disturbed site that remains inactive for greater than 7 days shall be stabilized with temporary stabilization measures such as soil treatment, temporary seeding or mulching. For purposes of this subsection, "inactive" means that no site grading, landscaping or utility work is occurring on the site and that precipitation events are not limiting these activities. Frozen soils do not exclude the site from this requirement.
16. Removal of Practices. Remove all temporary BMPs such as silt fences, ditch checks and sediment traps as soon as all disturbed areas have been stabilized.
17. Site Drainage. Site drainage plans shall comply with Checklist #3.



Checklist A

Erosion Control and Storm Water Permit Applicability and Exemptions

Name of Development/Land Being Disturbed:

Date Received:

Section A - Is the Site Exempt from Submitting an Erosion Control Permit and a Storm Water Management Permit?

- If any of the questions 1-5 are answered "yes", then the site is exempt from submitting an erosion control permit and a storm water management permit.

YES

NO

1. Do the land disturbing activities directly involved in the planting, growing and harvesting of any plant grown for human or livestock consumption and pasturing or yarding of livestock including sod farms and tree nurseries?

2. Are the land development and land disturbing activities exempted by state or federal law, including highway construction and other projects conducted by a state agency?

3. Is the land disturbing activity directly involved in the installation and maintenance of private on-site waste disposal systems?

4. If another regulatory agency is enforcing erosion control and storm water management provisions that the Village determines are at least as restrictive as those contained in this ordinance, has the applicant requested an exemption?

5. Has the Village exempted the site or a portion of a site from meeting any or all of the requirements in accordance with sec. 34-110(e) of the Village's ordinance?

6. **Is the Site Exempt from Submitting an Erosion Control Permit and a Storm Water Management Permit?**

Comments:

Section B - Does the Construction Site Need Erosion Control Permit?

- If question 7 is answered "yes" and 7a is answered "no", the construction is an individual one and two family residential building and does not need an erosion control permit. If question 7 is answered "yes" and 7a is answered "yes", the project needs an erosion control permit.
- If any of the questions 8-13 are answered "yes", the construction site needs an erosion control permit.
- If questions 14 or 15 are answered "yes", the site is exempt from submitting an erosion control permit.

YES

NO

7. Does the project involve activities the Village determines are required for the construction of individual one and two family residential buildings under SPS 321 Wis. Admin, Code?

a. If question 13 is answered yes, does the construction of the one and two family residential buildings disturb more than 1 acre?

8. Does the site disturb a total land surface area of 3,000 square feet or more?

9. Does the site disturb a surface area of 1 acre or more?

- 10. Does the project involve excavation or filling, or a combination of excavation and filling, in excess of 400 cubic yards of material?
- 11. Does the project involve the laying, repairing, replacing, or enlarging of an underground utility, pipe or other facility, or the disturbance of road ditch, grass swale or other open channel for a distance of 300 feet or more?
- 12. Does the project involve the maintenance of an existing storm water BMP?
- 13. Are there any land disturbing activities, regardless of size, that the Village determines is likely to cause an adverse impact to the environment or other property, or may violate any other erosion control standard set forth in this ordinance?
- 14. Is the project nonmetallic mining activities that are covered under a nonmetallic mining reclamation permit under NR 135 Wis. Admin. Code?
- 15. Is the project placing underground pipe or other utility that is plowed or bored into the ground outside areas of channelized runoff and causing no other disturbance?
- 16. **Does the Construction Site Need Erosion Control Permit?**
Comments:

Section C - Does the construction Require a Storm Water Management Permit?

- If question 17 is answered “yes” and 17a is answered “no”, the construction is an individual one and two family residential building and does not need a storm water management permit. If question 17 is answered “yes” and 17a is answered “yes”, the project needs a storm water management permit.
- If any of the questions 18-22 are answered “yes”, the site needs to have a storm water management permit.

- | YES | NO | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 17. Does the project involve activities the Village determines are required for the construction of individual one and two family residential buildings under SPS 321 Wis. Admin, Code? |
| <input type="checkbox"/> | <input type="checkbox"/> | a. If question 13 is answered yes, does the construction of the one and two family residential buildings result in an addition of ½ acre of impervious surface? |
| <input type="checkbox"/> | <input type="checkbox"/> | 18. Is the project creating a subdivision plat? |
| <input type="checkbox"/> | <input type="checkbox"/> | 19. Does the project disturb a total land surface area of 1 acre or more? |
| <input type="checkbox"/> | <input type="checkbox"/> | 20. Does the project involve the construction of a new public or private road of any length? |
| <input type="checkbox"/> | <input type="checkbox"/> | 21. Does the project ultimately results in the addition of ½ acre or greater of impervious surfaces, including smaller individual sites that are part of a common plan of development? |
| <input type="checkbox"/> | <input type="checkbox"/> | 22. Does the project involve any other land disturbing or land development activities, as determined by the Village, that would need storm water management? |
| <input type="checkbox"/> | <input type="checkbox"/> | 23. Does the site need a storm water management permit?
Comments: |

Types of Developments in the Village of Mukwonago								
	1 & 2 Family Residential			Construction Project				
				< 3,000 SF of Disturbance	> 3,000 SF but < 1 Acre of Disturbance		> 1 Acre of Disturbance	
Types of Construction Site Applications	1.	2.	3.	4.	5.	6.	7.	7.
Description	< 1 Acre of Disturbance and < ½ Acre of Added Imperviousness	< 1 Acre of Disturbance and > ½ Acre of Added Imperviousness	> 1 Acre of Disturbance and > ½ Acre of Added Imperviousness	< ½ Acre of Added Imperviousness	< ½ Acre of Added Imperviousness	> ½ Acre of Added Imperviousness	< ½ Acre of Added Imperviousness	> ½ Acre of Added Imperviousness
Is an Erosion Control Permit Necessary?	Follow SPS 321	Follow SPS 321	YES	NO	YES	YES	YES	YES
Is a Storm Water Management Permit Necessary?	Follow SPS 321	YES	YES	NO	NO	YES	YES	YES

Types of Construction Site Applications

1. Construction of individual one and two family residential buildings under SPS 321 Wis. Admin, Code, less than 1 acre disturbance and less than ½ acre of added impervious. **(Village of Mukwonago to review following SPS 321 Wis. Admin. Code.)**
2. Construction of individual one and two family residential buildings under SPS 321 Wis. Admin, Code, less than 1 acre disturbance and greater than ½ acre of added impervious. **(Village of Mukwonago to review and inspect EC and R/M will review Storm Water Management)**
3. Construction of individual one and two family residential buildings under SPS 321 Wis. Admin, Code, greater than 1 acre disturbance and greater than ½ acre of added impervious. **(R/M will review Plans and perform EC Inspections)**
4. Construction project does not need an erosion control permit and does not need a storm water management permit. **(No action necessary)**
5. Construction project needs an erosion control permit but does not need a storm water management permit. **(R/M will review EC Plans and perform EC Inspections)**
6. Construction project needs an erosion control permit (less than 1 acre disturbance) and a storm water management permit. **(R/M will review Plans and perform EC Inspections)**
7. Construction project needs an erosion control permit (greater than 1 acre disturbance) and a storm water management permit. **(R/M will review Plans and perform EC Inspections)**

Which Construction Site Application does this site fall into?

Date Distributed to Appropriate Personnel :

Additional Comments:



Checklist B Preliminary Storm Water Review Letter Applicability Checklist

Name of Development/Land Being Disturbed:

Date Received:

Section A – Does the site require a Preliminary Storm Water Review Letter?

- A preliminary storm water review letter from the Village Engineer is required for any of the following if question 24 on Checklist A – Section C is answered “yes” for the project:

YES

NO

1. Is the project trying to get approval for a preliminary plat?

2. Is the project trying to get approval for a certified survey map?

3. Is the project trying to get approval for a site plan?

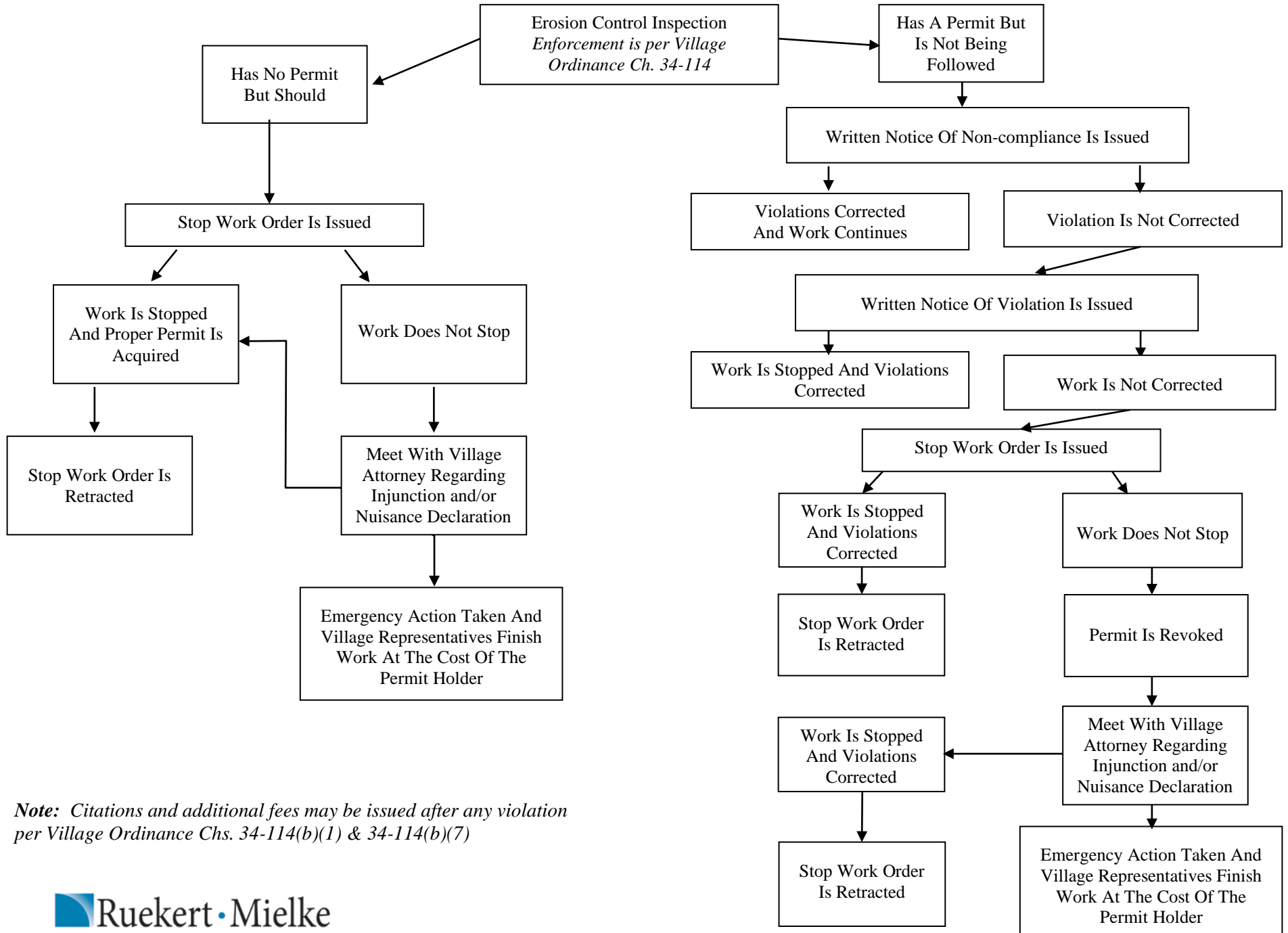
4. Is the project trying to get approval for a conditional use permit?

5. **Does the site require a Preliminary Storm Water Review Letter?**

Comments:

- The Village shall have 15 working days from the date the Village receives the **complete application** to issue a review letter to the applicable review authorities and the applicant based on the requirements of this ordinance.
- For preliminary plats, a Village interdepartmental review meeting shall not be scheduled prior to 5 working days nor more than 10 working days after the application submittal date for a preliminary review letter.

Village of Mukwonago Erosion Control Enforcement Procedure Flow Chart



Note: Citations and additional fees may be issued after any violation per Village Ordinance Chs. 34-114(b)(1) & 34-114(b)(7)



Village of Mukwonago

2.5 Post-Construction Storm Water Management

March 2021

The Village of Mukwonago has adopted an ordinance (Ch. 34-107) which regulates storm water discharges for new development and redevelopment. This program outlines the Village's procedures for post-construction storm water management plan review and local approval, handling of public complaints relating to post-construction storm water management facilities, and long term maintenance, inspections, and enforcement of privately owned facilities.

Process for Obtaining Local Approval & Responding to Complaints

The Village utilizes the Erosion Control and Storm Water Permit Process Flowchart (attached) for approval of storm water practices for new and redevelopment of sites greater than one acre of disturbance. Any citizen complaint is investigated by Village staff with an observation of the site in question.

Storm Water Plan Review

The Village utilizes checklists to ensure that plan reviews and post-construction requirements are met by each site with greater than one acre of land disturbance. The attached checklists (Checklist C and Checklist 3) guide the reviewer through the required components.

Privately-Owned Storm Water Facility Inspections

- Any site that contains a storm water facility (detention pond, infiltration basin, permeable pavement, etc.) shall be inspected at the frequency indicated in the site-specific long-term maintenance plan. Long-term maintenance plans are typically recorded with the county Register of Deeds prior to construction of the facility and are amended to reflected the constructed facility along with a certification by the design professional that they meet the intent of the storm water ordinance.
 - If a long-term maintenance plan does not exist for a particular storm water facility, then the facility shall be inspected at least once every year by the owner of the facility.
- An inspection report shall be completed for each inspection. Inspection reports shall be retained by the storm water facility owner for at least 5 years.
- The inspection reports shall be submitted to the Village at least once every year.
- The responsible party shall cause an inspection to be completed by a qualified professional every 5 years with a copy of this inspection report provided to the Village.
- Any citizen complaint will be investigated by Village staff with an observation of the site in question.
- Failure to perform an inspection and/or submit an inspection report to the Village by August 1st any year will result in a written notice from the Village requiring the inspection be completed and report submitted within a reasonable period of time as determined by the Village. Failure to complete the inspection and submit the inspection report within the above timelines will be considered a violation.

Storm Water Facility Maintenance

- Any maintenance actions or needed repairs identified in the inspection report shall be completed by the owner within a reasonable time period of the inspection as determined by the Village.
- Upon completion of routine maintenance activities, a follow-up inspection report shall be completed to document the corrections and submitted to the Village.
 - Upon completion of removal of accumulated sediment from a storm water facility to re-establish the size and depth of the facility as designed, the facility shall be surveyed to confirm and record the completed work. This survey information shall be submitted to the Village with the post-maintenance work inspection report.

*Local, state or federal permits may apply to storm water facility maintenance activities, depending on the location of the facility and the type of work proposed.

Information on disposal options for sediment removed from storm water facilities can be found on the Wisconsin Department of Natural Resources web-site at: <http://dnr.wi.gov/topic/waste/nr528.html>

Storm Water Facility Maintenance and Inspection Violations and Enforcement Measures

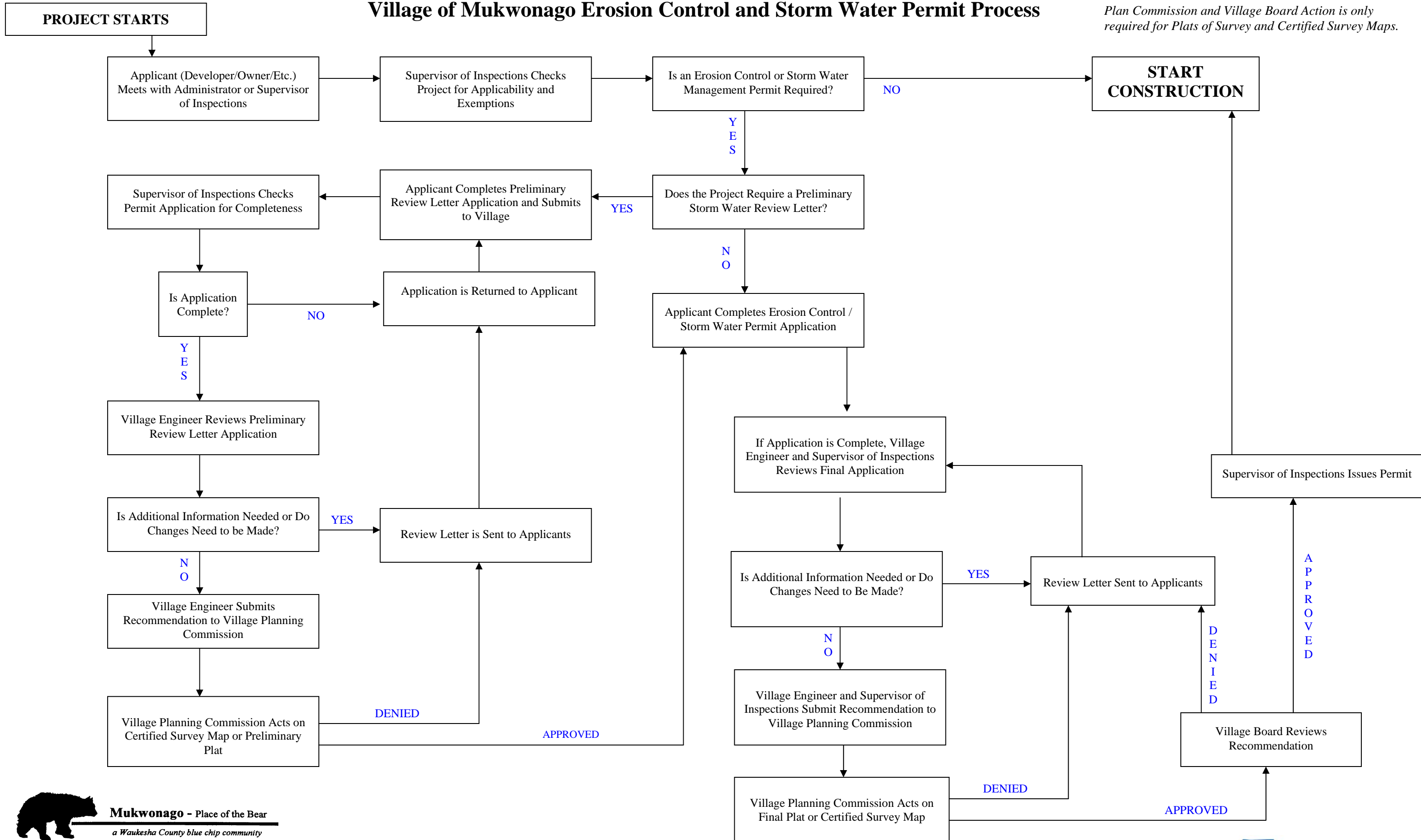
- Failure to complete inspections and/or reports and submit them to the Village within the timelines identified in the notice from the Village is considered a violation.
- Any maintenance activities identified on the storm water facility inspection report that are not completed within a reasonable time period, as determined by the Village shall be considered a violation.
- After discovering a violation due to lack of necessary maintenance activities, the Village shall notify the permit holder in writing. This written notification shall be hand delivered to the permit holder or sent to the last known address, with a reasonable attempt to verify that the permit holder received it.
- If violations are not corrected, the Village may follow the enforcement provisions found in Sec. 34-114 of the Storm Water Ordinance.

Attachments:

Village of Mukwonago Erosion Control and Storm Water Permit Process Flowchart
Checklist C
Checklist 3
Storm Water Facility Inspection Form

Village of Mukwonago Erosion Control and Storm Water Permit Process

***NOTE:**
Plan Commission and Village Board Action is only required for Plats of Survey and Certified Survey Maps.





Checklist C

Preliminary Storm Water Review

Letter Application Completeness Checklist

Name of Development/Land Being Disturbed:

Date Received:

Section A – Is the Preliminary Storm Water Review Letter Application Complete?

To request a preliminary review letter, the applicant shall submit a complete application to the Village.

- If any of the questions 1-6 are answered “no”, then the Preliminary Storm Water Review Letter Application is not complete

YES

NO

1. Is the application completed and signed?

2. Has the applicant provided certification to pay the review fee?

3. Has the applicant provided a site plan map in accordance with **Checklist 1**? The site plan map may be in a preliminary stage a prepared for zoning amendments and certified survey maps.

4. Has the applicant provided a preliminary erosion control plan in accordance with **Checklist 2**?

5. Has the applicant provided a preliminary storm water management plan in accordance with **Checklist 3** for those sites that propose to add a new road or add 0.5 acres or greater of impervious surfaces, including smaller individual sites that are part of a common plan of development

6. Has the applicant provided a preliminary maintenance agreement for all storm water BMP’s proposed for the site?

7. **Is the Preliminary Storm Water Review Letter Application Complete?**

Comments:

- The Village shall have 15 working days from the date the Village receives the **complete application** to issue a review letter to the applicable review authorities and the applicant.
- For preliminary plats, a Village interdepartmental review meeting shall not be scheduled prior to 10 working days nor more than 20 working days after the application submittal date for a preliminary review letter.



Checklist #3 Storm Water Management Plan Requirements

Under Village ordinance, additional impervious surfaces may trigger the need for a storm water management plan and permit. A storm water management plan is designed to protect downstream water resources and property owners from water pollution, flooding and other damage caused by urban runoff after a development is complete. Storm water management plans designed to meet the requirements of the Village ordinance shall adhere to the following guiding principles:

- 1) Preserve natural watershed boundaries and drainage patterns;
- 2) Reserve adequately sized areas for storm water infiltration, detention and treatment early in the planning process;
- 3) Locate storm water BMPs prior to runoff leaving the site or entering waters of the state, and outside of wetlands, floodplains, primary or secondary environmental corridors or isolated natural areas.
- 4) Minimize soil compaction and maintain pre-development groundwater recharge areas;
- 5) Minimize impervious surfaces and have them drain to vegetated areas for pollutant filtering and infiltration;
- 6) Emphasize vegetated swales, warm season and wetland plantings and low flow velocities for storm water conveyance, treatment and infiltration, especially for transportation related projects;
- 7) Allow for different storm water management strategies for cleaner runoff (i.e. roofs) versus more polluted runoff (i.e. streets and parking lots);
- 8) Provide for emergency overflow in all storm water BMP designs;
- 9) Distribute storm water bioretention and infiltration BMPs throughout the site plan for large developments.

Storm Water Management Plan Must Include:

- 1. A **site map** in accordance with Checklist #1. Digital submittal required.
- 2. **Drafting date** and **contact information** for the project engineer, with the engineer's stamp and date. All other mapping elements and scale consistent with the site plan map;
- 3. Location of **existing and proposed storm water discharge points**;
- 4. Delineation and labeling of all proposed **impervious areas** and accompanying area computations.
- 5. Final **design drawings** of all proposed storm water BMPs with unique references to support documentation, prepared in accordance with minimum Village standards and of sufficient clarity for those responsible for site grading, including:
 - a. Plan views showing the **location of proposed BMPs** in combination with the site plan map at a scale of 1 inch equals no more than 100 feet;
 - b. Additional **detail plan view** drawings at a scale of 1 inch equals no more than 40 lineal feet, showing proposed 2 foot contours and all critical design features and elevations;
 - c. Detailed **cross-sections** and profiles of each BMP, drawn to scale, with locations shown on the plan view, and showing all critical design features, side slopes, structures, soil profiles and elevations, including seasonal high water table and existing grade;
 - d. Detailed drawings or **material specifications** for inlets or outlets.
- 6. Type, size, location and cross-sections of all pipes, open channels, grade stabilization structures and other proposed storm water **conveyance systems**, with unique references to support documentation.
- 7. Location and dimensions of proposed **drainage easements**.

- 8. Location, dimensions and surfacing materials or soils data of proposed **access lanes** and delineations of easements needed to allow future maintenance of storm water BMP's. Minimum width of any access easement shall be 15 feet.
- 9. Location of soil borings and **soil profile evaluations** with surface elevations and unique references to supplemental data sheets, as needed to determine feasibility of any proposed storm water BMP and to comply with applicable technical standards such as basement/groundwater separation requirements.
- 10. Detailed **construction notes** explaining all necessary procedures to be followed to properly implement the plan, including planting and landscaping specifications, timing and sequencing of construction and any temporary measures needed to protect BMPs during the construction phase.
- 11. Detailed **construction inspection plan**, outlining the critical elements in the plan that need to be surveyed or inspected by a representative of the project engineer, the Village, and the timing and notification requirements involved (Identify who is responsible).
- 12. A final **BMP maintenance agreement** in accordance with ordinance requirements.
- 13. Support documentation summarized in accordance with Village standards, must include at least the following:
 - a. A **narrative** summary of the storm water plan. (May combine with erosion control plan).
 - b. **Maps** of existing and proposed **watersheds**, subwatersheds, Tc/Tt flow paths, soil types, hydrologic soil groups, land uses/cover type and runoff curve numbers within the site and draining into the site from adjacent properties, with unique references to hydrology data summaries and the ultimate receiving water body(s) for off-site discharges.
 - c. Pre-development and post-development **hydrology** and pollutant loading (if applicable) **data** for each watershed, such as peak flows and runoff volumes, as needed to meet the requirements of the ordinance. All major assumptions used in developing the input parameters shall be clearly stated and cross-referenced to the maps.
 - d. **Impervious** surface maps and calculations of runoff volumes and effective infiltration areas.
 - e. **Hydraulic & hydrologic data summaries** for all existing and proposed pipes, channels, grade stabilization structures and other runoff conveyance systems, and the necessary documentation to demonstrate compliance with the site drainage requirements (see pg. 4).
 - f. **BMP design data** for each proposed BMP, showing how it complies with applicable technical standards and the requirements of the ordinance, following approved Village format.
 - g. **Soil evaluation reports** with matching references to map features, location and elevations.
 - h. A cover sheet **stamped and signed by a professional engineer** registered in the State of Wisconsin indicating that all plans and supporting documentation have been reviewed and approved by the engineer and certifying that, to the best of their knowledge, the submitted plans comply with the requirements of the ordinance.
 - i. For sites where changes are proposed in storm water flow paths or where proposed storm water discharges may otherwise have a significant negative impact on downstream property owner(s), the Village may require the applicant to submit written authorization or complete other legal arrangements with the affected property owner(s).

Summary of Storm Water Management Plan Technical Requirements

Listed below is a brief summary of the specific storm water management planning requirements and performance standards that must be met on all sites. It is highly recommended that the applicant meet with the Village prior to preparing a site plan to determine the applicability of these requirements early in the planning process. Please note that this is only a summary. It is intended to be a general guide for the project engineer. For details on any of the items listed, see the ordinance.

1. Peak Discharge. The calculated post-development peak storm water discharge rate for the 100 year design storm shall not exceed the calculated pre-development discharge rates for the 10-year design storm and the calculated post-development peak storm water discharge rate for the 2 and 10 year design storms shall not exceed the calculated pre-development discharge rates for the 2-year design storm. The post-development peak storm water discharge rate for the 1-year, 24-hour design storm and ensure that it not exceed the calculated pre-development peak discharge rate for the 1-year 24-hour design storm.
2. Total Suspended Solids. By design, each storm water management plan must meet the following post-development total suspended solids (TSS) reduction targets, based on average annual rainfalls, as compared to no runoff management controls:
 - A. For new land development and in-fill development, 80% reduction in total suspended solids load.
 - B. For redevelopment, 40% reduction of total suspended solids load from parking areas and roads.
3. Infiltration.

Minimum Infiltration Volumes (%)

Percent Connected Impervious Surface	Description/Example Land Uses	Post-Development Infiltration Volume ^a	Maximum Effective Infiltration Area
Up to 40%	Description: Low imperviousness	90% of pre-development ^b	1% of site
>40% up to 80%	Description: Medium imperviousness	75% of pre-development	2% of site
>80%	Description: High imperviousness	60% of pre-developments	2% of site

***Note:** All percentages are based on average annual rainfall. To avoid downstream flooding and chronic wetness issues from stormwater discharges, the post-development infiltration volume for low density residential developments shall not be less than 25% of the 2-year, 24-hour storm, in accordance with subsection 7, below.

4. Protective Areas. A “protective area” is a vegetative buffer that must be maintained between a proposed impervious surface and the nearest water resource, measured from the “top of channel”. Storm water BMPs may be located in the area, but cannot encroach on wetlands, floodplains or environmental corridors. Minimum widths of protective areas are shown in the table below:

Site Description	Protective Area Min. Width
All Lakes and Streams (See County GIS System)	50 Lineal Feet
"Outstanding" and "Exceptional Resource Waters" Wetlands:	75 Lineal Feet
• Highly Susceptible.	75 Lineal Feet
• Less Susceptible.	10 % of Average Wetland Width
Concentrated Flow Channels (>130 Acre Drainage)	10 Lineal Feet

5. Fueling and Vehicle Maintenance Areas. Must have BMPs designed, installed and maintained to reduce petroleum within runoff, such that the runoff that enters waters of the state contains no visible petroleum sheen.

6. Site Drainage.

- A. *Drainage easements* must be recorded to preserve major storm water flow paths, specify maintenance responsibilities, restrict buildings/structures and prevent any grading, filling or other activities that obstruct flows.
- B. *Site grading* must ensure positive flows away from all buildings, roads, driveways/septic systems, coordinate with general drainage patterns for the area, and minimize adverse impacts on adjacent properties.
- C. *Street drainage* must prevent concentrated flows from crossing the traffic lanes. Design flow depths at the road centerline must not exceed 6 inches during the 100-year, 24-hour design storm (planned land use).
- D. *Bridges and cross-culverts* must facilitate fish passage and prevent increased flooding or channel erosion upstream or downstream from the structure. All bridges and cross culverts on collector and arterial roadways shall be designed to convey the 100-year, 24-hour design storm. All bridges and cross culverts on local roadways shall be designed to convey the 10-year, 24-hour design storm while providing an overland flow path for the 100-year, 24-hour design storm. A floodplain analysis is required for all projects impacting a navigable waterway.
- E. *Basement floor* surfaces must be built at least 1 foot above the seasonal high water table elevation and avoid all hydric soils.
- F. *Open channels* must carry flows from a 100-year, 24-hour design storm. Side slopes shall be no steeper than 3h:1v and the longitudinal slope shall be no flatter than 1 percent.
- G. *Storm sewers* shall be designed to convey the 10-year, 24-hour design storm while providing an overland flow path which does not impact structures for the 100-year, 24-hour design storm.
- H. *Buildings* must be protected from 100-year, 24-hour design flows for all drainage systems. For homes and businesses (human occupancy), the following additional requirements shall apply (by deed restriction):
 - The lowest elevation of the structure that is exposed to the ground surface must be at least 2 feet above the 100-year flow elevation.
 - Must be setback at least 50 feet from the 100-year flow line.

Note: The Village may establish more stringent requirements than those listed based on unique site conditions, such as sensitive water resources or downstream landowner impacts.

The Village requires map items listed above to be submitted in digital form, if available.

Pond Information							
Pond ID:		Pond Type:					
Location:							
Subdivision:		Watershed:					
Capacity:		Acres:					
Overflow Elev:		100 Year Elev:					
Year Constructed:		Date Input:					
Water Quality:		Private:					
Inspection Details							
Inspector Name(s):							
Inspection Date:		Start Time:		End Time:			
Weather Condition:				Last Rainfall Date:			
Issue	Checked			Maintenance Needed			Comments
	Y	N	N/A	Y	N	N/A	
Dry Pond							
1. Standing water or wet spots?							
2. Sediment or trash accumulation?							
3. Low flow channels unobstructed?							
4. Other?							
Wet Pond							
1. Removal of floating debris required?							
2. Visible oil/chemical presence?							
3. Evidence of wave action?							
4. Safety shelf erosion or failure?							
5. Other?							
Infiltration Basin							
1. Standing water or wet spots?							
2. Sediment or trash accumulation?							
3. Under drain functioning?							
4. Other?							

Issue	Checked			Maintenance Needed			Comments
	Y	N	N/A	Y	N	N/A	
Vegetation							
1. Adequate vegetation cover?							
2. Appropriate vegetation?							
3. Presence of invasive or undesirable vegetation/woody growth?							
4. Excessive nuisance aquatic vegetation present?							
5. Other?							
Sediment Forebays							
1. Is sediment accumulation >50%? If yes, maintenance is needed immediately.							
2. Evidence of excessive velocity/scour?							
3. Maintenance access clear of obstructions?							
4. Other?							
Embankment & Emergency Spillway							
1. Is the spillway level?							
2. Adequate Freeboard? (min 1' from top of bank to highest outlet)							
3. Embankment erosion evident?							
4. Cracking, bulging or sliding of embankment?							
5. Evidence of animal burrows?							
6. Seepage evident on exterior face of embankment?							
7. Vertical & horizontal alignment of top of dam as per plans?							
8. Emergency spillway clear of obstructions & debris?							
9. Maintenance access clear of obstruction?							
10. Other?							

Issue	Checked			Maintenance Needed			Comments
	Y	N	N/A	Y	N	N/A	
Riser & Outfall Spillway							
1. Low flow orifice obstructed?							
2. Low flow trash rack debris/corrosion?							
3. Weir trash rack debris/corrosion?							
4. Excessive sediment accumulation inside the riser?							
5. Sediment accumulation in outlet pipe?							
6. Outfall channels functioning?							
7. Under drain functioning?							
8. Slope protection or rip-rap failures?							
9. Other?							
Other							
1. Encroachments on pond or easement area?							
2. Complaints from residents?							
3. Odor?							
4. Mowing required?							
5. Graffiti removal needed?							
6. Insects in excess?							
7. Public hazards?							
8. Other?							
Summary:							
Inspector Remarks:							

Village of Mukwonago

Inspection and Maintenance of Municipally Owned or Operated Storm Water Management Facilities

July 2016

Purpose of Storm Water Facility Inspections and Maintenance

Design and construction of storm water detention ponds, infiltration basins, biofilters, permeable pavement systems, and other treatment facilities started in the Village of Mukwonago 15-20 years ago, and continue today. These systems are designed to reduce the amount of sediment, nutrients, metals and other pollutants that run off the streets and lands in the Village and flow into the lakes, creeks and wetlands, causing harm to aquatic habitat and water quality.

The Village of Mukwonago is required to ensure inspections and maintenance activities are being performed on the municipally owned or operated storm water facilities designed and constructed to improve water quality flowing through the municipal storm sewer system and ultimately into local lakes, streams and wetlands. This requirement is found in sections 2.5 and 2.6 of the WPDES Municipal Separate Storm Sewer System (MS4) Permit no. WI-S050075-2, issued on April 29, 2014.

Municipally “owned” storm water facilities include detention ponds, infiltration basins, biofilters, permeable pavement and other systems located on *municipal* property, and are owned and maintained by the municipality.

Municipally “operated” storm water facilities include detention ponds, infiltration basins, biofilters, permeable pavement and other systems located on *private* property, which the private property owners are required to inspect and maintain. The Village is required, through the MS4 permit, to ensure inspections and subsequent maintenance activities are being performed on these facilities to maintain the water quality treatment capabilities of the system as designed.

Municipally Owned Storm Water Facility Inspections

- Village staff will inspect municipally owned storm water facilities once per year.
- Inspection reports will be recorded on a spreadsheet or other tracking system, and reports will be retained for at least 5 years.

Privately-Owned (Municipally Operated) Storm Water Facility Inspections

- Any site that contains a storm water facility (detention pond, infiltration basin, permeable pavement, etc.) shall be inspected at the frequency indicated in the site-specific long-term maintenance plan. Long-term maintenance plans are typically recorded with the county Register of Deeds prior to construction of the facility and are amended to reflected the constructed facility along with a certification by the design professional that they meet the intent of the storm water ordinance.
 - If a long-term maintenance plan does not exist for a particular storm water facility, then the facility shall be inspected at least once every year by the owner of the facility.
- An inspection report shall be completed for each inspection. Inspection reports shall be retained by the storm water facility owner for at least 5 years.
- The inspection reports shall be submitted to the Village at least once every year.
- The responsible party shall cause an inspection to be completed by a qualified professional every 5 years with a copy of this inspection report provided to the Village.
- Any citizen complaint will be investigated by Village staff with an observation of the site in question.
- Failure to perform an inspection and/or submit an inspection report to the Village by August 1st any year will result in a written notice from the Village requiring the inspection be completed and report submitted within a reasonable period of time as determined by the Village. Failure to complete the inspection and submit the inspection report within the above timelines will be considered a violation.

Storm Water Facility Maintenance

- Any maintenance actions or needed repairs identified in the inspection report shall be completed by the owner within a reasonable time period of the inspection as determined by the Village.
- Upon completion of routine maintenance activities, a follow-up inspection report shall be completed to document the corrections and submitted to the Village.
 - Upon completion of removal of accumulated sediment from a storm water facility to re-establish the size and depth of the facility as designed, the facility shall be surveyed to confirm and record the completed work. This survey information shall be submitted to the Village with the post-maintenance work inspection report.

*Local, state or federal permits may apply to storm water facility maintenance activities, depending on the location of the facility and the type of work proposed.

Information on disposal options for sediment removed from storm water facilities can be found on the Wisconsin Department of Natural Resources web-site at: <http://dnr.wi.gov/topic/waste/nr528.html>

Storm Water Facility Maintenance and Inspection Violations and Enforcement Measures

- Failure to complete inspections and/or reports and submit them to the Village within the timelines identified in the notice from the Village is considered a violation.
- Any maintenance activities identified on the storm water facility inspection report that are not completed within a reasonable time period, as determined by the Village shall be considered a violation.
- After discovering a violation due to lack of necessary maintenance activities, the Village shall notify the permit holder in writing. This written notification shall be hand delivered to the permit holder or sent to the last known address, with a reasonable attempt to verify that the permit holder received it.
- If violations are not corrected, the Village may follow the enforcement provisions found in Sec. 34-114 of the Storm Water Ordinance.

Pond Information							
Pond ID:		Pond Type:					
Location:							
Subdivision:		Watershed:					
Capacity:		Acres:					
Overflow Elev:		100 Year Elev:					
Year Constructed:		Date Input:					
Water Quality:		Private:					
Inspection Details							
Inspector Name(s):							
Inspection Date:		Start Time:		End Time:			
Weather Condition:				Last Rainfall Date:			
Issue	Checked			Maintenance Needed			Comments
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Dry Pond							
1. Standing water or wet spots?							
2. Sediment or trash accumulation?							
3. Low flow channels unobstructed?							
4. Other?							
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1. Removal of floating debris required?							
2. Visible oil/chemical presence?							
3. Evidence of wave action?							
4. Safety shelf erosion or failure?							
5. Other?							
Infiltration Basin							
1. Standing water or wet spots?							
2. Sediment or trash accumulation?							
3. Under drain functioning?							
4. Other?							

Issue	Checked			Maintenance Needed			Comments
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2. Appropriate vegetation?							
3. Presence of invasive or undesirable vegetation/woody growth?							
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2. Evidence of excessive velocity/scour?							
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2. Complaints from residents?							
3. Odor?							
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5. Graffiti removal needed?							
6. Insects in excess?							
7. Public hazards?							
8. Other?							
Summary:							
Inspector Remarks:							



Office of the Village Public Works Dept.

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www.villageofmukwonago.com

Village of Mukwonago Pollution Prevention Plan

Revised February 2021

The Village is covered under the Wisconsin Department of Natural Resources' (WDNR) WPDES Municipal Separate Storm Sewer System Permit No. WI-S050075-3, reissued on May 1, 2019. The intent of the MS4 permit program is to minimize the discharge of pollutants into the local lakes, streams, and wetlands via the Village's storm water conveyance system.

The Village of Mukwonago has been conducting a pollution prevention program since 2010, when it was first required under the WPDES Municipal Separate Storm Sewer System (MS4) Permit No. WI-S050075-1.

The Village of Mukwonago is located within the (IL) Fox River Basin. A Total Maximum Daily Load analysis (TMDL) is currently under development for this basin and is anticipated to be completed in 2023-2025. This TMDL is anticipated to address the Total Suspended Solids (TSS) and phosphorus that is impairing waterways in the basin.

The Village Public Works Director will administer the pollution program.

The following permit sections have independent written programs:

- **2.6.1 Stormwater BMP Inspection and Maintenance Program**
- **2.6.2 BMP Inspections**
- **2.6.3 Stormwater Pollution Prevention Plans (SWPPP) for Municipal Properties**
- **2.6.6 Winter Road Management (Includes Section 2.6.9 Staff Training Program)**

The Village has not entered a program for adding nutrients to our municipal properties at this time. In the event the village begins a program, a written policy and documentation program will be in effect before the process begins. The written program will be attached to the subsequent annual MS4 report.

The Village of Mukwonago is divided into five zones. These zones are used to identify areas when completing inspections and maintenance.

Street Sweeping (2.6.5.a.)

The Village uses a vacuum sweeper to collect debris on urban sections of streets. Operations begin in spring as weather permits and are conducted four times annually. The zones mentioned above are used as a tracking method for staff to ensure completion for round of sweeping. The fourth round of sweeping is conducted just prior to leaf fall and the beginning of leaf collection.



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New employees are trained by the mechanic on operation and maintenance for the unit. Operators are trained in the areas of operation, preventive maintenance and common issues associated the unit's performance.

Catch Basin Cleaning (2.6.5.b.)

Village staff clean one fifth of the catch basins annually. The above-mentioned zone map is used a guide to ensure each CB is cleaned one once per permit term. Inspections are completed at the time of cleaning and documented on the villages GIS for future reference and documentation. Work orders are created for repairs and any unusual debris removed are noted.

Equipment used in the process include the street sweeper and a jetter/vacuum truck.

Material Handling and Disposal (2.6.5 c.)

Debris collected from street sweeping and catch basin cleaning are stored in a concrete bin under tarp until removal. The Village contracts with a garbage and recycling contractor for disposal at an appropriate land fill. An annual report outlining weights, time and facility location for documentation is requested by the Village from the contractor.

Leaf Collection (2.6.5 d.)

The Village contracts for residential yard waste collections with the current garbage and recycling contractor for its yard waste recycling program, including leaf collection. Eight collection events are conducted annually with focused collections in November and December for leaves. The quarterly recycling report from the contractor contains the weight of yard waste collected. Fourth quarter data is used for reporting purposes on the annual MS4 report.

Residents are required to place leaves in compostable paper bags or reusable refuse containers at the curb for collection.

Leaves that accumulate in the streets are removed by Village staff with a vacuum sweeper. The sweeper is run at a lower RPM during leaf collection operations to prevent contamination from normal street debris. Leaves collected by street sweeper are composted at the Village DPW yard for internal use.

Leaves from Village facilities and parks are mulched on site and left in place. Leaves at sites with insufficient areas for onsite composting will have the leaves collected and disposed of at the DPW yard composting site.

VILLAGE OF MUKWONAGO
WAUKESHA/WALWORTH COUNTIES

RESOLUTION 2021-14

A Resolution Adopting the Village of Mukwonago Snow and Ice Control Policy

WHEREAS, the Village currently does not have a formal policy for snow and ice control measures and guidelines; and

WHEREAS, a written procedure is required by the Wisconsin DNR for the MS4 permit, and

WHEREAS, a formal process allows for a more standardized approach that staff will use during winter events, outlining procedures for pre-event, event, and post event measures taken to provide safe drivable streets within the Village; and

WHEREAS, the Public Works Committee has reviewed the Village of Mukwonago Snow and Ice Control Policy and recommends its final adoption.


NOW, THEREFORE, IT IS HEREBY RESOLVED, that the Village Board of the Village of Mukwonago hereby approves the Village of Mukwonago Snow and Ice Control Policy dated March 17, 2021, as attached hereto.

Adopted this 17th day of March, 2021.



Fred Winchowky, Village President

Attest:



Diana Dykstra, Clerk-Treasurer

SNOW AND ICE CONTROL POLICY



Adopted by the Village Board March 17, 2021

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I. INTRODUCTION

PURPOSE

The purpose of this manual is to establish an acceptable policy and operational procedures for snow and ice control on public streets and parking under the jurisdiction of the Village of Mukwonago. This policy provides a uniform understanding of the priorities and procedures used to combat accumulation of snow and ice on Village streets.

OBJECTIVE

The objective of these policies and procedures is to provide adequate traction for vehicles properly equipped for winter driving conditions. Priority is given to streets which carry the largest traffic volume. Limited resources preclude service on lower priority streets until higher priority streets have been completed. It should be expected that during storms of high intensity or long duration and during non-regular working hours, drivers on lower priority streets will encounter snow-covered or icy conditions. Snow and ice control operations will continue during regular hours and/or until all streets have passable pavement or when plowing and de-icing is no longer effective.

SCOPE

This policy applies only to public streets under the jurisdiction of the Village of Mukwonago. The village has approximately 91 lane miles of arterial, collector and residential streets that it maintains. Snow removal on county and state highways is provided by Waukesha County.

The Public Works Department is responsible for snow removal from 11 village-owned public parking lots and 3 miles of village-maintained sidewalks. The Utilities Department is responsible for 9 facility lots.

Village ordinance assigns the responsibility of sidewalk snow removal from the Village to the adjacent property owner. § 74-8 **Snow and ice removal**. [Ord. No. 880, § I, 9-16-2014; Ord. No. 910, § I, 3-15-2016]

II. POLICIES

RESPONSIBILITY

The responsibility for implementing the snow and ice control policy lies with DPW supervision, or designee. The Village of Mukwonago Police Department may request operations during off hours by contacting the assigned DPW supervision.

TRAINING

Prior to the start of the snow season, the Department of Public Works will conduct training activities for personnel that will be involved in snow control activities. The training will consist of classroom, hands-on equipment operation and calibration.

WEATHER MONITORING

DPW supervision will use the National Weather Service, local meteorologists, and on-line resources to develop a mobilization plan for each winter event.

COMMENCEMENT OF OPERATIONS

The Department of Public Works will monitor conditions whenever there is danger of ice or snow conditions developing on village streets. The Police Department also reports icy conditions to the DPW after regular working hours. The Village of Mukwonago Police Department may request operations during off hours by contacting the assigned DPW supervision.

PRIORITIES

A limited number of resources and the need to provide the greatest level of safety and benefit to the traveling public, in an efficient manner, necessitate that priority be given to certain heavily used streets above others more minor in nature. Therefore, streets with higher intensity use have a higher priority for snow removal service. Minor streets which require proportionally more time for snow removal for traffic served have a lower priority.

DEVEATION FROM POLICY

Deviations from standard policies and procedures may occur due to unusual or extraordinary circumstances. Every winter storm has unique characteristics such as storm intensity, duration, wind, temperature, and moisture content that influence the methodology used in response to each storm.

Deviations and exceptions from the general priorities and procedures may be made when, in the judgment of the responsible authority, such deviations will best support meeting established objectives and ensuring public safety.

The time required to clear snow and ice from streets depends on a variety of conditions often unique to each storm event. The strategies used to plow streets depend on several factors including:

- Snowstorm intensity and accumulation.
- Anticipated snowstorm duration.
- Type of snow, ranging from light/dry to heavy/wet.
- Ambient air and pavement surface temperatures before and expected after snowfall.
- High winds and drifting conditions.
- Traffic conditions, weekday versus weekend.
- Time of day.
- Time of season – fall, winter, or spring; and
- Availability of equipment and staff.

III. OPERATIONS PLAN

EQUIPMENT RESOURCES

Six (6) single axel patrol trucks equipped with a 2-way plow, wing, salter/sander and pre-wet. One (1) baby dump truck with a 2-way plow and salt/sander. One (1) wheel loader with a 2-way plow and wing. One (1) pickup truck with a plow.

The department may at times utilize equipment from the Utilities Department to assist with snow removal activities. This equipment includes one (1) pickup truck with a 2-way plow and a skid loader.

STAFFING

There are seven employees who work full time for the Department of Public Works. These employees can operate plows, sanders, and front-end loaders for snow

removal. Seven (7) staff members from the Utilities Department are available when snow events require additional support or equipment operators.

RESPONSE PLAN

When weather forecasts indicate a pending storm is anticipated to deposit snow within the Village, public works staff will begin applying salt-brine (anti-icing) to priority streets to aid in ice and snow control. This application can generally be completed within eight hours and helps prevent the occurrence of ice buildup on these higher priority streets.

Each plow route contains priority streets and areas of concentrated traffic such as schools, industrial parks, police, and fire services, and will be cleared of snow and are deemed safe for travel during or after a snow event. Snow removal operations shift to secondary streets and cul-de-sacs after priority street have been cleared. Public facilities and public parking lots are cleared at the same time as street operations. Village maintained sidewalk will be cleared within 24 hours after a snowfall ends per village ordinance. Cul-de-sacs, multi-use trails and park lots/roads will be cleared as time allows during normal hours of operation.

PRE-STORM APPLICATION OF SALT BRINE

Anti-icing is considered the most cost-effective method of preventing snow and ice from bonding to the pavement. Application rates require far less material when compared to de-icing operations. Brine applied before an event allows for cleaner mechanical removal and requires less salt for deicing. The DPW will begin applying salt-brine to priority streets identified on the **Primary Anti-Icing Route** when weather forecasts indicate a storm is anticipated. Salt brine is applied at 40 gallons per lane mile when conditions outlined on the **Anti-Icing Flow Chart** are met.

DE-ICING

De-icing is generally completed along with plowing in conformance with the priority road response system. Pre-wetting of salt prior to dispensing prevents dry salt from bouncing and blowing off the road. This is a cost-effective measure while reducing environmental impacts. Current village equipment uses pre-wet units that spray a salt brine solution on the spinner at a rate of 10 gallons per ton of salt. Staff refer to the **Winter Maintenance Application Guideline** for salt application rates based on best practices of similar events. Rates are adjusted as conditions change. Sanding alone is conducted when roads are icy and low temperatures make salt ineffective on snow-packed roads.

Once operations have begun, de-icing will continue until the selected streets have had traction restored. Depending on the weather conditions, arterial and collector streets

may receive multiple applications along with other high use intersections or streets with inclines.

MATERIALS

Salt pre-wet with chemical blends as outlined Winter Maintenance Application Guideline is used for deicing operations.

For sanding operations, salt and sand mixtures will be used in different amounts, depending on pavement/air temperature and the amount of precipitation. Generally, a mixture consisting of two (2) parts sand to one (1) part salt is used.

SALT STORAGE

The salt storage facility at 630 Veterans Way East has a capacity of approximately 1,000 tons. Orders for salt delivery are regularly made to keep the storage facility at capacity.

BRIDGES

Bridges often become icy before the adjacent streets because the ambient air temperature is lower beneath the bridges than the ground temperature beneath the pavement. Bridges are monitored for icy conditions department staff personnel during normal working hours and after-hours by the Police Department.

Salt brine is usually applied to bridge decks before a snow or ice event to prevent the snow and ice from bonding to the bridge deck. If ice is present, a salt and sand mixture may be spread to increase traction and melt ice.

CUL-DE-SACS

To become more efficient, crews will make one (1) full pass around the perimeter of the cul-de-sac with a snowplow. When clearing the cul-de-sac, snow will be pushed to a safe location for storage. Snow will be removed from the cul-de-sac later when storage capacity is reached.

LOADING AND HAULING OF SNOW

Snow removal will begin after streets, municipal facility parking and village sidewalks are cleared and deemed not hazardous. Village crews will remove snow from the downtown business district when parking, passenger loading and unloading become

hazardous. Loading and hauling snow is time-consuming and will be performed in other areas as time allows during normal hours of operation.

PUBLIC RELATIONS

Providing information to the public is a vital part of the snow removal process. Residents need to know how they can help facilitate snow removal and what to expect in terms of a response by village crews to winter storms. Messages sent to the public can range from simple requests to remove parked vehicles from the street, to notification of street closures, or snow emergencies.

Prior to snow season each year, the village will convey information regarding the sidewalk ordinance and parking restrictions.

The Department of Public Works will work closely with the Police Department to convey information regarding snow removal activities as needed and to request resident compliance with snow removal and parking restrictions.

DISPATCHING REQUESTS FOR SERVICE

Since snowplow operators are already trained to follow priorities established by policies and procedures contained herein, it is inefficient to respond to individual concerns before allowing operators to respond in accordance with existing procedures.

The Police Department dispatch center will log requests for service and forward these logs to snow removal supervision for review and potential action. DPW Supervision will use these logs to direct operators to areas of concern, after they have achieved the goals established within existing snow removal policies.

V. OPERATIONAL PROCEDURES FOR DIFFERENT STORM INTENSITIES

The following procedures describe implementation of the Operations Plan for various storm intensities. These procedures are intended as an aide to supervisors and management staff to ensure essential actions are taken. Variations to these procedures may be made by public work supervision, or his designate, to best meet the demands of changing storm events. These procedures will also help provide residents with a better understanding of how the Village manages snow removal.

MINOR SNOW EVENT

Generally, < four (4) inches' accumulation of snow within the roadway.

Anti-icing operations will begin when conditions as outlined in the **Anti-Icing Flow Chart** and may start up to 72 hours in advance of an event.

Plowing and deicing operations begin when unsafe conditions warrant, or cleanup operations begin. Initially one patrol truck to be placed in service to when conditions become hazardous. Primary streets, arterials and hospital routes will be priority for this initial response route.

Additional trucks will be dispatched when conditions require a more effective response or the initiation of cleanup operations.

Sidewalk snow removal operations begin after street operations are completed.

AUTHORITY

Public Works Supervision or designee during off-hours has the authority to call-out an initial response unit for the Primary Route. Public Works Supervision has the authority to place additional units in service.

MODERATE SNOW EVENT

Generally, four – eight (4– 8) inches' anticipated accumulation of snow within the roadway.

Anti-icing operations will begin when conditions as outlined in the **Anti-Icing Flow Chart** are met and may start up to 72 hours in advance of an event.

Plowing and deicing operations when unsafe conditions warrant, or cleanup operations begin. Initially one patrol truck to be placed in service to when conditions become hazardous. Primary streets, arterials and hospital routes will be priority for this initial response route.

Additional trucks will be dispatched when conditions require a more effective response or the initiation of cleanup operations.

Sidewalk snow removal operations begin after street operations are completed.

AUTHORITY

Public Works Supervision or designee during off-hours has the authority to call-out an initial response unit for the Primary Route. Public Works Supervision has the authority to place additional units in service as needed.

ADDITIONAL RESOURCES NEEDED

During events in the upper range, an additional pickup and wheel loader equipped with a plow and wing will be placed into service requiring support from two utility staff members.

HEAVY SNOW EVENT

Generally, > eight (8) inches accumulation of snow within the roadway.

Anti-icing operations will begin when conditions as outlined in the **Anti-Icing Flow Chart** and may start up to 72 hours in advance of an event.

Plowing and deicing operations when unsafe conditions warrant, or cleanup operations begin. Initially one patrol truck to be placed in service to when conditions become hazardous. Primary streets, arterials and hospital routes will be priority for this initial response route.

Additional trucks will be dispatched when conditions require a more effective response or the initiation of cleanup operations.

Sidewalk snow removal operations begin after street operations are completed.

AUTHORITY

Public Works Supervision or designee during off-hours has the authority to call-out an initial response unit for the Primary Route. Public Works Supervision has the authority to place additional units in service as needed.

ADDITIONAL RESOURCES NEEDED

One (1) an additional pickup and the wheel loader equipped with a plow and wing will be placed into service requiring support from three (3) utility staff members.

SNOW EMERGENCY

Generally, when eight (8) inches or more snow anticipated within the roadway and/or storm durations exceed 24 hours a snow emergency will be called. Eliminating street parking during plowing operations provides for a more efficient process and a quicker return to winter street parking privileges. § 82-177 **Parking during snowstorm emergency**. [Code 1966, § 4.16; Ord. No. 888, § 1, 12-16-2014; Ord. No. 895, § IV, 3-17-2015]

Resources will be committed to priority streets first. Additional resources, as described below, will be brought in to clear lower-priority roads. Only after priority streets are cleared, will all resources be shifted to the remaining streets and cul-de-sacs.

AUTHORITY

Public Works Supervision has the authority to callout and direct snow removal resources. The Public Works Director coordinates public information updates through Village Administrator and the Village of Mukwonago Police Department. The Public Works Director may also seek assistance from other departments within the village to provide additional labor to meet the conditions.

VI. PUBLIC INFORMATION

PUBLIC INFORMATION

The Village of Mukwonago Police Department will notify the following TV and radio stations notifying residents that on-street parking restrictions will be actively enforced.

WTMJ (TV channel 4, 94.5 FM and 620 AM)
WITI (TV channel 6)
WISN (TV channel 12)
WDJT (TV channel 58)

The Police Department will also post notices on the RAVE alert system, community message centers and the department's Facebook page.

Additional departments may post notices to their social media accounts,

ON-STREET PARKING

It is dangerous and difficult to plow narrow streets that are congested with parked vehicles. Plowing around parked cars limits the effectiveness of snow removal activities. Some narrow streets may not be plowed if equipment cannot safely drive down them. The most helpful thing residents can do to facilitate snow removal is to move vehicles off the street and encourage their neighbors to do the same.

To facilitate snow removal, the police department will enforce the village's winter parking ordinance requiring alternate side on-street parking. § 82-231 **Winter parking on through highways.** [Code 1966, § 4.24(8); Ord. No. 888, § I, 12-16-2014; Ord. No. 937, § II, 10-17-2017; Ord. No. 953, § 11, 11-15-2018] § 82-191 **At certain hours and dates.**

[Code 1966, § 4.24(1); Ord. No. 394, § 1, 12-18-1984; Ord. No. 530, § 1, 11-11-1993; Ord. No. 603, § I, 9-2-1997; Ord. No. 608, § I, 12-16-1997; Ord. No. 806, § I, 7-17-2007; Ord. No. 817, § I, 2-17-2009; Ord. No. 822, § I, 6-16-2009; Ord. No. 888, § 1, 12-16-2014; Ord. No. 941, § I, 12-19-2017]

SNOW BLOWING

Blowing, throwing, or pushing snow from driveways and walks into the street creates additional work for snowplow operators and may create significant traffic hazards. Some businesses and residents have pushed large piles of snow into the street, hoping it would melt quickly. The snow pile is a hazard itself, but the ice created when the melting snow refreezes can make the situation even more dangerous. Move snow onto landscaped areas in the yard or parking lot. Village Code prohibits placing snow upon any public street, sidewalk, easement, right-of-way, or public way, or sidewalk. 34-32(a)(10). § 34-32 **Public nuisances affecting peace and safety.**

[Code 1966, § 16.02(4)(a) — (q); Ord. No. 611, § I, 1-6-1998; Ord. No. 804, § I, 5-15-2007]

CUL-DE-SACS

There are approximately 56 cul-de-sacs in the Village. It takes considerably longer to clear snow from cul-de-sacs than other "uninterrupted" stretches of village streets. Cul-de-sacs will be cleared, but it will likely be several days after a major storm ends.

Parking on cul-de-sac. Between November 1 through March 31, no person shall park any motor vehicle, which may interfere with snow and/or ice control operations, within a cul-de-sac upon the streets as set forth in the most current Village Board traffic resolution. § 82-180 **Miscellaneous parking restrictions.**

[Code 1966, § 4.09(5); Ord. No. 581, § 1, 11-5-1996; Ord. No. 588, § I, 1-7-1997; Ord. No. 596, § I, 4-15-1997; Ord. No. 805, § I, 6-19-2007; Ord. No. 818,

§ I, 2-17-2009; Ord. No. 888, § 1, 12-16-2014; Ord. No. 937, § I, 10-17-2017; Ord. No. 953, § I, 11-15-2018

SIDEWALKS

Snowplow operators try to avoid placing snow on sidewalks, but in some instances this may not be possible. The adjacent property owner is responsible to keep sidewalks clear.

RESIDENTIAL DRIVEWAYS

One of the most frequent concerns in the removal of snow from public streets is snow being deposited at the approach to residential driveways during plowing operations. As plows travel along streets, the snow accumulated on the plow blade has no place to go but on to the adjacent street landscaping areas and in driveways. The more snow that has fallen, the greater the problem encountered.

Residents can help this situation by piling snow they have shoveled from their driveways on to the right side facing the street, instead of placing it on both sides at the end of the driveway. By doing so operators can avoid carrying piles from the “upstream” portion of the street back across driveways.

MAIL DELIVERY

Village snow removal operators make every effort to remove snow as close to the curb as practical and to provide access to mailboxes for postal carriers. However, it is not always possible to provide ideal conditions and not damage mailboxes with the size and type of equipment the village operates. Therefore, the final cleaning adjacent to mailboxes is the responsibility of each resident.

If there is an accumulation of snow blocking your mailbox, it is the property owner’s responsibility to remove the snow so the mailbox can be reached by your letter carrier and label it with your address and the words “U.S. Mail.”

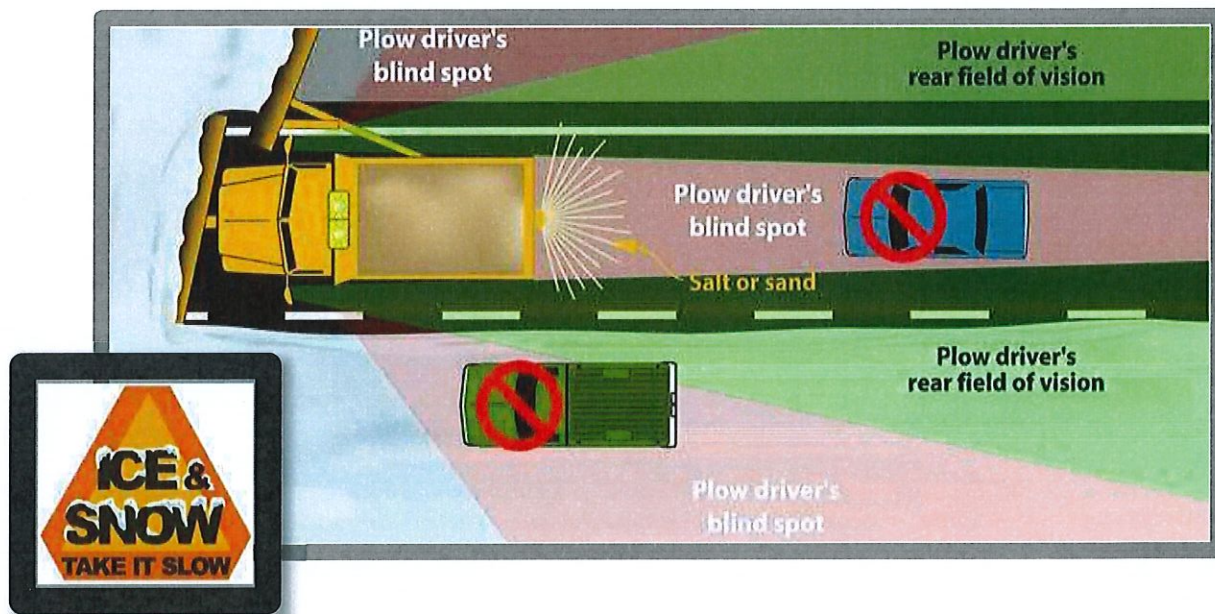
PROPERTY DAMAGE CLAIMS

Incidents involving contact between Village equipment and private property typically occur within the public right-of-way. Although the public right-of-way is maintained by the adjacent property owner, there are times when the right-of-way is the only available space to store excess snow removed from the roads. A village right-of-way is commonly defined as roadway, sidewalks, terrace (grass strip) curbs and gutters. Terrace areas may be necessary to serve as excess snow storage, therefore, actions taken by operators can occasionally result in property damage, particularly during blizzard conditions or night-time snow plowing.

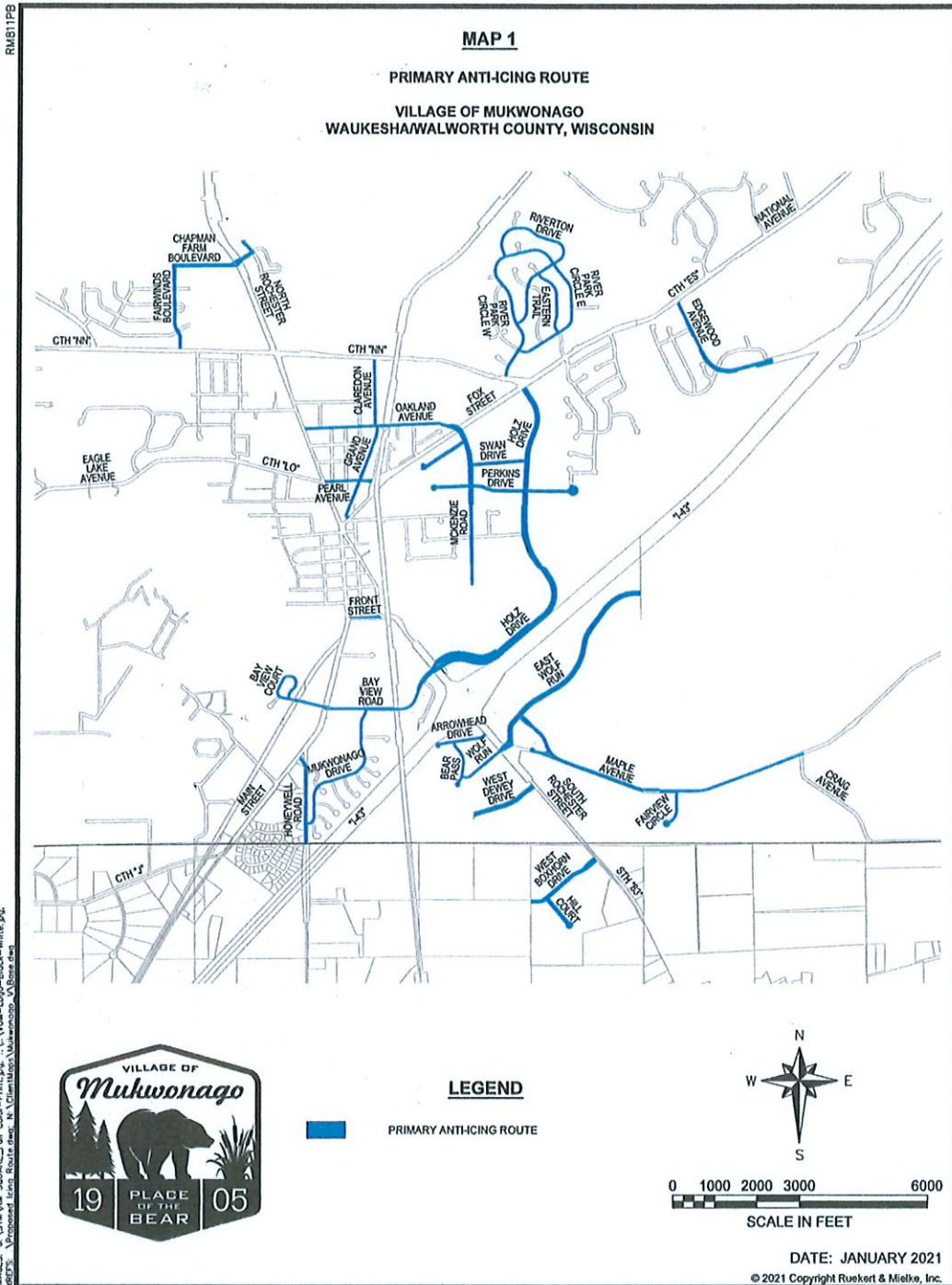
In the event of damage to property during snow removal, the property owner should notify the Public Works Office by calling (262) 363-6447 or by filling out a REPORT A CONCERN email on the Village's website <https://villageofmukwonago.com/>. The claim will then be reviewed to determine if the damage was a result of impact with a plow blade or other piece of equipment. It should be noted that mailboxes should be constructed to United States Postal service (USPS) standards and be able to withstand the force of snow rolling off a plow. Mailboxes That extend beyond the curb face into the street will be replaced or repaired by village staff.

SAFETY TIPS

- When trucks are plowing snow and spreading sanding material, stay back from the vehicle 100 feet to avoid problems.
- Plow trucks often must back up. There are blind spots in the mirrors. For your safety, do not pull up directly behind them. They may not be able to see you.
- When cleaning driveways or parking lots, do not put snow in the street. This can cause problems for other motorists.
- Plow trucks generally push snow to the passenger side of the truck (right side when looking at it from the rear). Never attempt to pass a truck on the right since there can be much more snow on that side of the vehicle.



PRIMARY ANTI-ICING ROUTE



Jan 25, 2021 3:07pm PLOTTED BY: AKueper SAVED BY: AKueper
 G:\CD 2019\12_Village of Mukwonago\0000 Misc\USA Icing Route\Zcree-Proposed Icing Route-01.dwg Layout1
 38757 V:\Projects\2021\12_Village of Mukwonago\0000 Misc\USA Icing Route\Zcree-Proposed Icing Route-01.dwg
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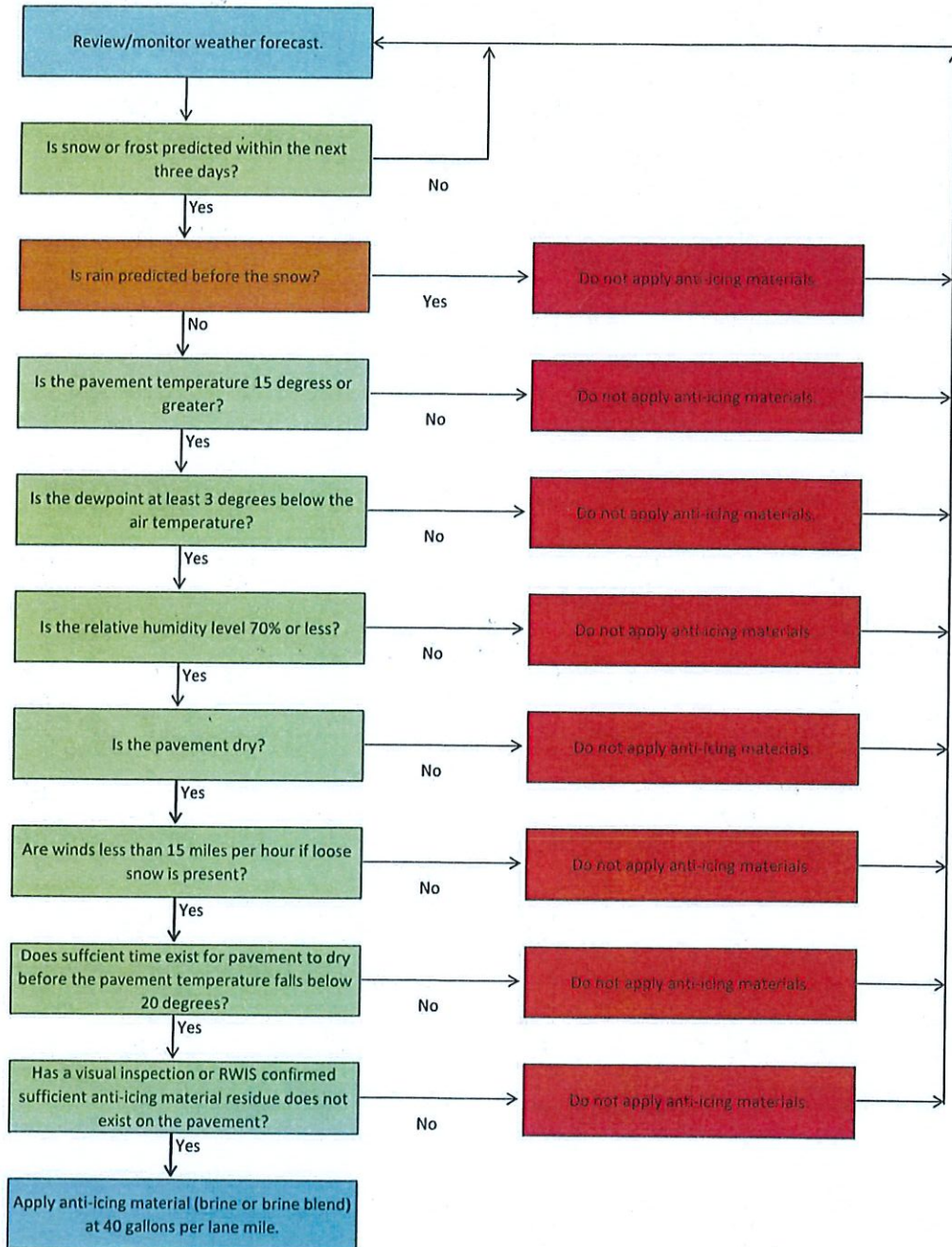


SOURCE: RJM
 BASEMAP SOURCE: WAUKESHA COUNTY PARKS & LAND USE



ANTI-ICING FLOW CHART

Anti-Icing Application Decision Flowchart



WINTER MAINTENANCE APPLICATION GUIDELINE

Highway Division Application Rate Guidelines

Appendix H

24' of pavement (typical two-lane road)

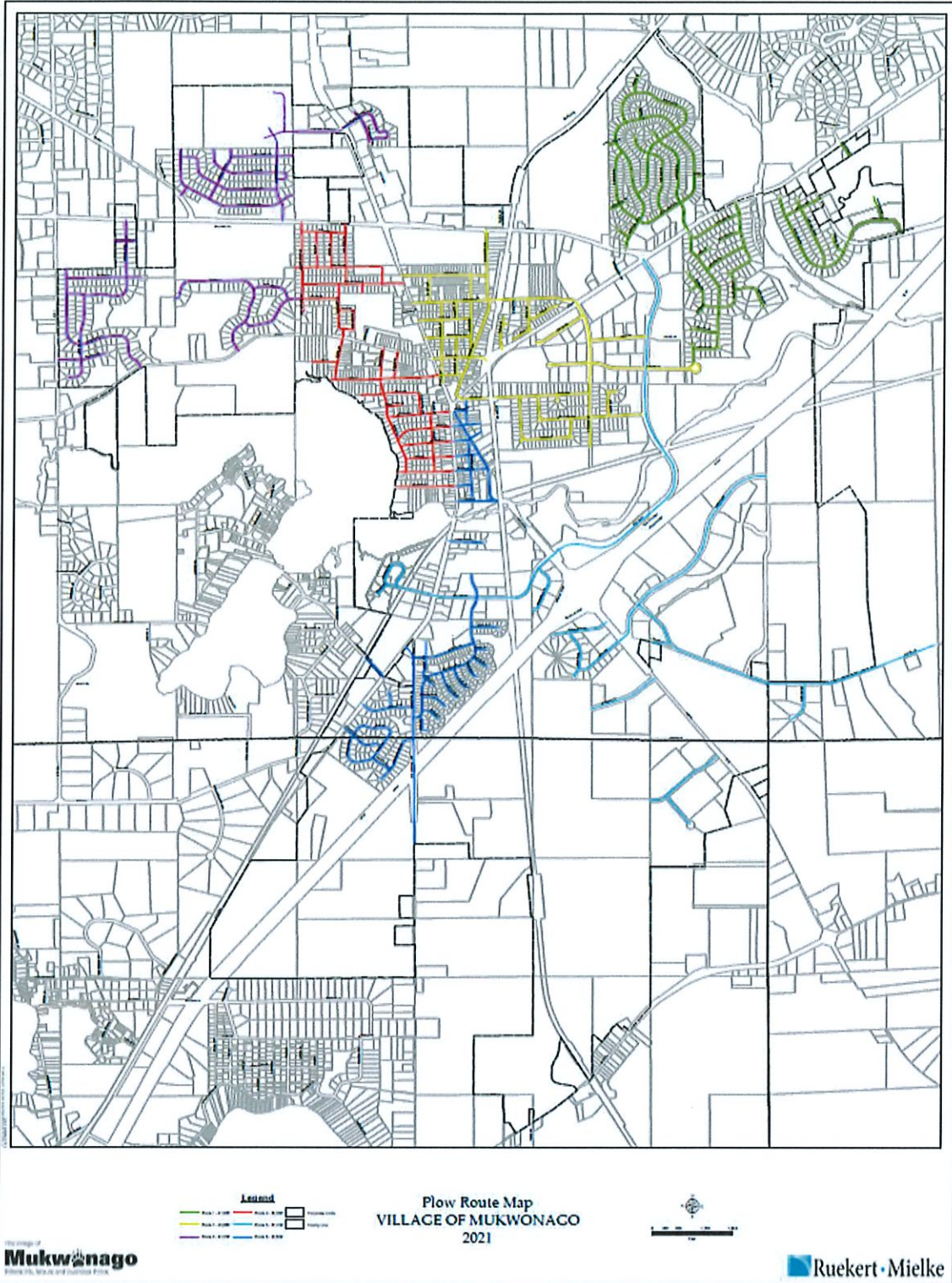
These rates are not fixed values, but rather the middle of a range to be selected and adjusted by an agency according to its local conditions and experience.

Pavement Temp. (°F) And Trend ↑↓	Weather Condition	Maintenance Actions	Lbs / two – lane mile			
			Salt Prewetted/ Pretreated With Salt Brine	Salt Prewetted/ Pretreated With Other Blends	Dry Salt*	Winter Sand (abrasives)
>30°↑	Snow	Plow, treat Intersections only	80	70	100*	Not recommended
	Freezing Rain	Apply chemical	80 - 160	70 - 140	100 – 200*	Not recommended
30°↓	Snow	Plow & apply chemical	80 - 160	70 - 140	100 – 200*	Not recommended
	Freezing Rain	Apply chemical	150 - 200	130 - 180	180 – 240*	Not recommended
25 - 30°↑	Snow	Plow & apply chemical	120 - 160	100 - 140	150 – 200*	Not recommended
	Freezing Rain	Apply chemical	150 - 200	130 - 180	180 – 240*	Not recommended
25-30°↓	Snow	Plow & apply chemical	120 - 160	100 - 140	150 – 200*	Not recommended
	Freezing Rain	Apply chemical	160 - 240	140 - 210	200 – 300*	400
20 - 25°↑	Snow or Freezing Rain	Plow & apply chemical	160 - 240	140 - 210	200 – 300*	400
20 - 25°↓	Snow	Plow & apply chemical	200 - 280	175 - 250	250 – 350*	Not recommended
	Freezing Rain	Apply chemical	240 - 320	210 - 280	300 – 400*	400
15 - 20°↑	Snow	Plow & apply chemical	200 - 280	175 - 250	250 – 350*	Not recommended
	Freezing Rain	Apply chemical	240 - 320	210 - 280	300 – 400*	400
15 - 20°↓	Snow or Freezing Rain	Plow & apply chemical	240 - 320	210 - 280	300 – 400*	500 for Freezing Rain
0-15°↑↓	Snow	Plow, treat w/blends, sand hazardous areas	Not recommended	300 - 400	Not recommended	500 – 750 spot treat as needed
< 0°	Snow	Plow, treat w/blends, sand hazardous areas	Not recommended	400 – 600**	Not recommended	500 – 750 spot treat as needed

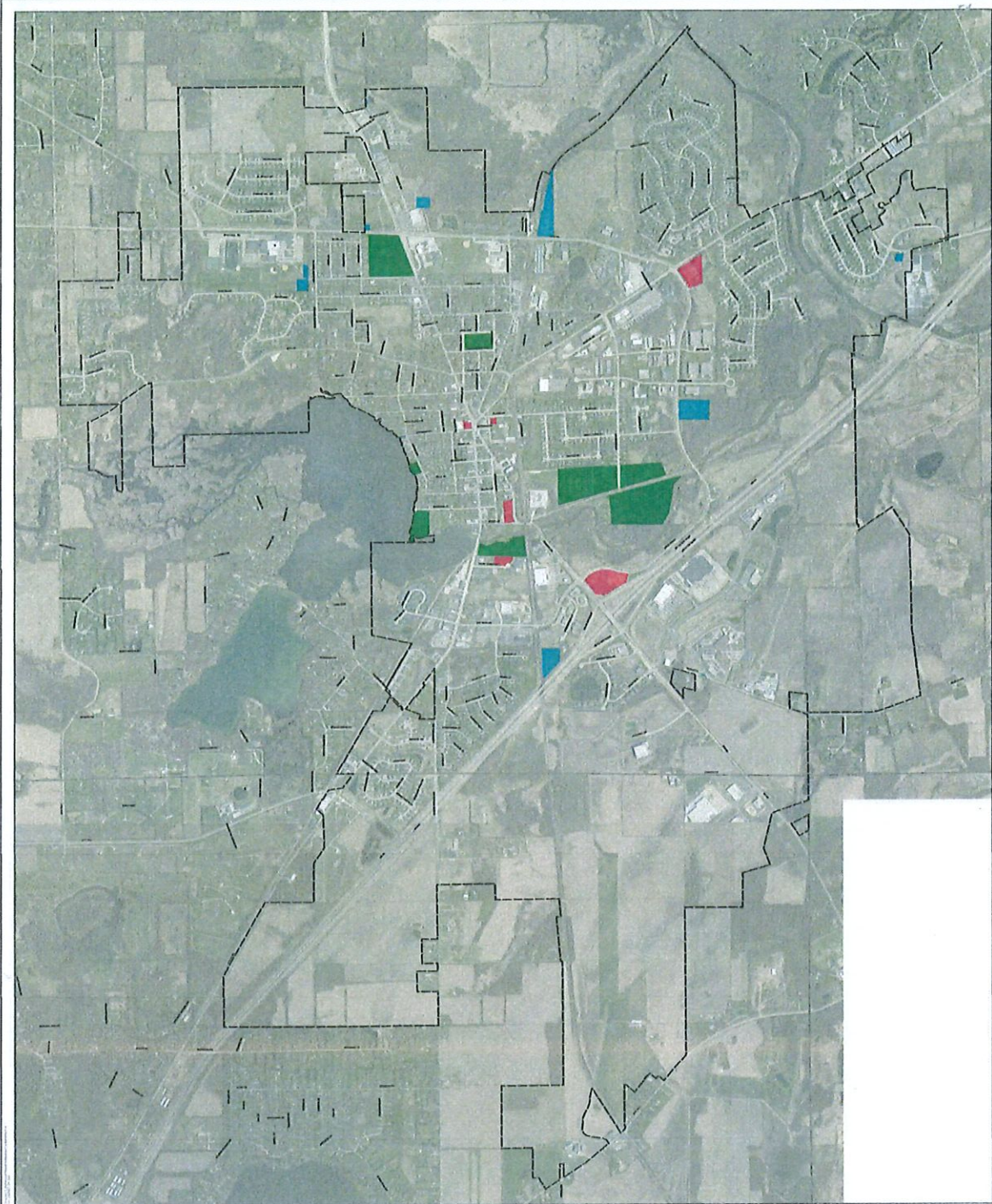
* Dry salt is not recommended. It is likely to blow off the road before it melts ice






** A blend of 6 – 8 gal/ton $MgCl_2$ or $CaCl_2$ added to $NaCl$ can melt ice as low as - 10°

PLOW ROUTES



VILLAGE FACILITIES AND PUBLIC PARKING LOTS



-  Parks - 153,200 Sq Ft
-  Public Facilities - 200,000 Sq Ft
-  Operational Facilities - 130,000 Sq Ft
-  Corporate Limits
-  County Line

Paved Facility Lots Map
VILLAGE OF MUKWONAGO
2021



VILLAGE ORDINANCES

§ 74-8 Snow and ice removal. [Ord. No. 880, § I, 9-16-2014; Ord. No. 910, § I, 3-15-2016]

The owner, occupant or person in charge of each and every building or structure or unoccupied lot in the Village fronting or abutting any street shall clean or cause to be cleaned the sidewalk in front of or adjoining each such home, building or unoccupied lot, as the case may be, of snow or ice to the width of such sidewalk within 24 hours after snowfall ceases and shall cause the sidewalk to be kept clear from ice and snow, provided that when the ice has formed on a sidewalk so that it cannot be immediately removed, such persons shall keep the sidewalk sprinkled with sand or salt. For purposes of this section, sidewalk shall include the handicapped access ramps between the sidewalk and roadway.

§ 82-177 Parking during snowstorm emergency.[Code 1966, § 4.16; Ord. No. 888, § 1, 12-16-2014; Ord. No. 895, § IV, 3-17-2015]

(a)

Emergency declarations. The Village Board hereby declares that an emergency exists in the Village whenever a snowfall during any period of 24 hours or less, is predicted to, or does reach a depth of six inches or more, as reported by the weather service. Such emergency is declared to be a serious public hazard impairing transportation and public health, safety, and welfare for a period of 48 hours or until such earlier time as snow removal operations have been declared completed by the public works director. From Subsection **82-180(d)**, "Snow emergency parking restrictions" whenever the Village President shall, by reason of heavy snowstorm or blizzard, proclaim a snow emergency pursuant to W.S.A., §§ 323.11 and 323.14, no person shall park, stop, or leave standing any vehicle upon the streets or any portion of the streets during the hours set forth in such proclamation.

(b)

Parking regulations during snow emergencies. Whenever an emergency exists and the public works director shall cause announcement of such emergency to be made by not less than two radio stations whose normal operating range covers the Village, and thereafter, no person shall park, or suffer to be parked, any vehicle of any kind or description in an area marked by temporary no parking signs or between the hours of 12:00 p.m. and 6:00 a.m., inclusive, upon any street in the Village; provided, however, that, notwithstanding such emergency restrictions, vehicles may be parked for a period of time not longer than three minutes for actually loading or unloading of passengers, or 30 minutes for actually loading or unloading of property; and provided further that no other regulation restricting parking as to place, time, or manner is violated thereby.

c)

Authorization of erection of no parking signs. Pursuant to the provisions of W.S.A., §§ 323.11 and 323.14, the public works director is authorized to erect temporary no parking signs during the existence of an emergency created by a snowstorm or excessive snowfall which impairs or prevents the full use of any highway, street, or roadway for transportation.

(d)

Snow tow-away zone. The public works director is hereby authorized to cause the towing away of vehicles parked in violation of this section.

(e)

Penalty for violation of section. Notwithstanding any other provisions of this chapter, any person violating the provisions of this section shall pay a forfeiture as set forth in the most current Village Board bail bond resolution, plus penalty assessment and court costs and, upon failure to pay any forfeiture, penalty assessment and court costs imposed, may be imprisoned not exceeding six months or until such forfeiture, penalty assessment and costs are paid. This provision is based upon the special penalty provisions of W.S.A., §§ 323.11 and 323.14.

§ 82-180 Miscellaneous parking restrictions.

[Code 1966, § 4.09(5); Ord. No. 581, § 1, 11-5-1996; Ord. No. 588, § I, 1-7-1997; Ord. No. 596, § I, 4-15-1997; Ord. No. 805, § I, 6-19-2007; Ord. No. 818, § I, 2-17-2009; Ord. No. 888, § 1, 12-16-2014; Ord. No. 937, § I, 10-17-2017; Ord. No. 953, § I, 11-15-2018]

(h)

Parking on cul-de-sac. Between November 1 through March 31, no person shall park any motor vehicle, which may interfere with snow and/or ice control operations, within a cul-de-sac upon the streets as set forth in the most current Village Board traffic resolution.

§ 82-231 Winter parking on through highways.[Code 1966, § 4.24(8); Ord. No. 888, § I, 12-16-2014; Ord. No. 937, § II, 10-17-2017; Ord. No. 953, § 11,11-15-2018]

(a)

A night privilege parking permit issued under this division shall not permit parking in violation of any other provision of this article relating to time, place, and manner of parking, stopping, or standing of vehicles, including regulations relating to civil defense and snow emergencies.

(b)

A night privilege parking permit issued under this division shall not permit parking of any motor vehicle which may interfere with snow and/or ice control operations within

a cul-de-sac upon the streets as set forth in the most current Village Board traffic resolution.

§ 82-191 At certain hours and dates.

[Code 1966, § 4.24(1); Ord. No. 394, § 1, 12-18-1984; Ord. No. 530, § 1, 11-11-1993; Ord. No. 603, § I, 9-2-1997; Ord. No. 608, § I, 12-16-1997; Ord. No. 806, § I, 7-17-2007; Ord. No. 817, § I, 2-17-2009; Ord. No. 822, § I, 6-16-2009; Ord. No. 888, § 1, 12-16-2014; Ord. No. 941, § I, 12-19-2017]

(a)

No person shall park or leave standing any vehicle on any public highway of the Village for more than 30 minutes between the hours of 2:00 a.m. and 6:00 a.m. from November 1 through March 31.

§ 34-32 Public nuisances affecting peace and safety.

[Code 1966, § 16.02(4)(a) — (q); Ord. No. 611, § I, 1-6-1998; Ord. No. 804, § I, 5-15-2007]

(a) The following acts, omissions, places, conditions, and things are hereby declared to be public nuisances affecting peace and safety, but such enumeration shall not be construed to exclude other nuisances affecting public peace or safety:

(10) All obstructions of streets, alleys, sidewalks or crosswalks and all excavations in or under the same, except as permitted by the ordinances of the Village or which, although made in accordance with such ordinances, are kept or maintained for an unreasonable or illegal length of time after the purpose thereof has been accomplished. Obstructions of streets or alleys includes the depositing or placing of leaves, brush or snow into the street or alley.

Mailbox Installation

How to Set Up & Mount a Mailbox

Follow U.S. Postal Service® guidelines for installing and placing a new mailbox at your home. Get tips on the best materials to use to set up a curbside mailbox and how to keep it in good condition. Make sure that your mail carrier always has a clear path to your mailbox whether it is by the street or mounted on your house.



Curbside Mailboxes

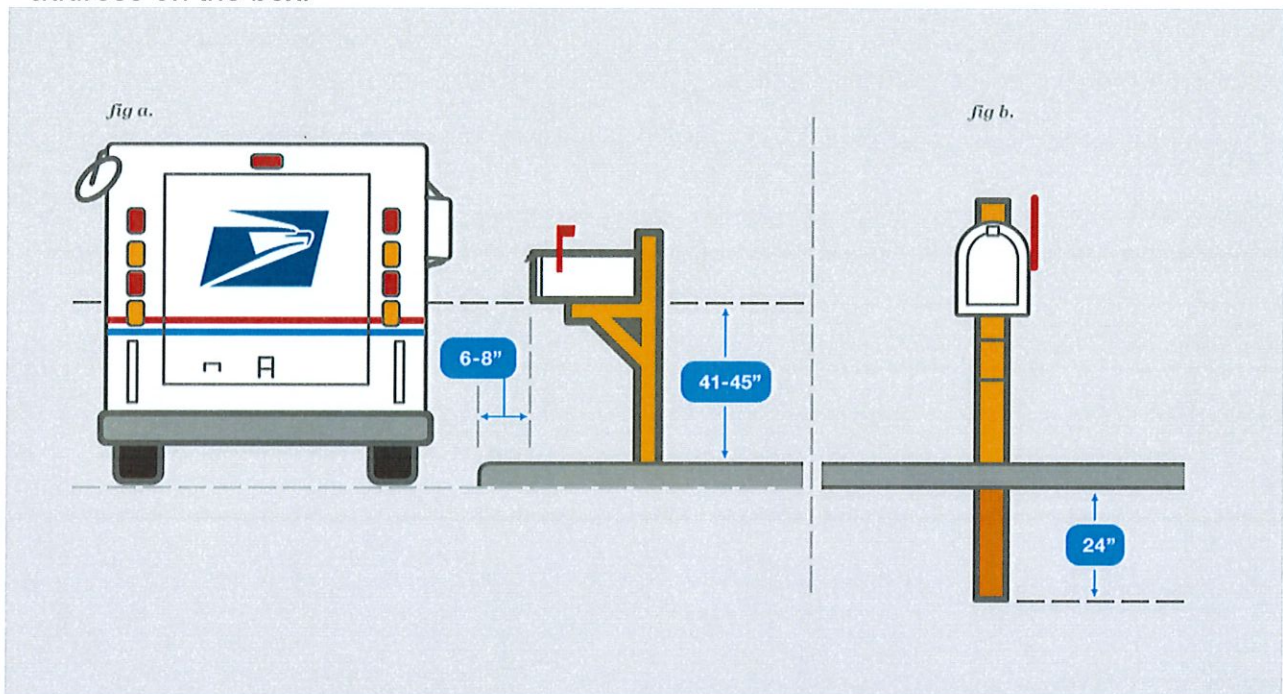
Mailbox Size & Construction Standards

A mailbox with the Postmaster General's (PMG) seal of approval meets USPS size and construction standards. If you build your own mailbox or buy a custom-made one, it must meet the PMG standards. Show your local postmaster your mailbox plans or your custom-made box for approval.

Where to Place the Mailbox

Here are some helpful guidelines to follow when placing your mailbox:

- Position your mailbox 41" to 45" from the road surface to the bottom of the mailbox or point of mail entry.
- Place your mailbox 6" to 8" back from the curb. If you do not have a raised curb, contact your local postmaster for guidance.
- Put your house or apartment number on the mailbox.
- If your mailbox is on a different street from your house or apartment, put your full street address on the box.



Installing the Mailbox Post

The best mailbox supports are stable but bend or fall away if a car hits them. The Federal Highway Administration recommends:

- A 4" x 4" wooden support or a 2"-diameter standard steel or aluminum pipe.
- Avoid unyielding and potentially dangerous supports, like heavy metal pipes, concrete posts, and farm equipment (e.g., milk cans filled with concrete).
- Bury your post no more than 24" deep.

Target Audience	Topic #	Topic #	Topic #	Program Title	Activity/Event	Month	Year	Date	Location	# People	Description
Teachers and Students	2	3	5	soil/water	Presentation	Jan	2020	1-3-20	Oconomowoc	25	soil and water program for earth science class
Teachers and Students	2	3	5	soil/water	Presentation	Jan	2020	1-3-20	Oconomowoc	18	soil and water program for earth science class
Teachers and Students	2	3	5	career	Presentation	Jan	2020	1-10-20	New Berlin	60	career day at Orchard Lane Elementary
Teachers and Students	5	6		groundwater	Presentation	Jan	2020	1-29-20	Retzer	24	groundwater program for Kettle Moraine students
Teachers and Students	8	6			Presentation	Feb	2020	2-5-20	WCTC	6	presentation for sustainable building class
Teachers and Students	2	3	5	career	Presentation	Feb	2020	2-6-20	WCTC	12	presentation for sustainable building class
Teachers and Students	2	3	5	career	Presentation	Feb	2020	2-7-20	New Berlin	79	Elmwood Elementary Career Day
Teachers and Students	2	3	5		Displays and handouts	Feb	2020	2-8-20	Retzer	500	Mild Winter night event
Teachers and Students	7	5		Green Schools	Green Schools	Feb	2020	2-10-20	Prairie Hill Waldorf	1	provided rain barrel and diverter for use at the school
Teachers and Students	3	5		healthy soils	Presentation	Feb	2020	2-19-20	Waukesha	20	Banting Elementary 2nd grade
Teachers and Students	3	5		healthy soils	Presentation	Feb	2020	2-19-20	Waukesha	20	Banting Elementary 2nd grade
Teachers and Students	3	5		healthy soils	Presentation	Feb	2020	2-19-20	Waukesha	20	Banting Elementary 2nd grade
Teachers and Students	2	3	5	career	Presentation	Feb	2020	2-28-20	New Berlin	25	Poplar Creek Elementary Career Day
Teachers and Students	3	5		healthy soils	Presentation	Mar	2020	3-4-20	Retzer	24	Kettle Moraine School District
General Public	3	5		home composting	Presentation	Mar	2020	3-5-20	Waukesha	16	Waukesha Wellness Center Lunch n Learn
General Public	9	3		home composting	Stream Monitoring	Mar	2020	3-7-20	Retzer	32	volunteer appreciation event
General Public	2	3	5	green home	Presentation	Mar	2020	3-9-20	Muskego	64	lunch n learn at Inpro
General Public	3	5		home composting	Presentation	Mar	2020	3-10-20	Waukesha	11	Waukesha Wellness Center Lunch n Learn
General Public	2	3	5	green home	Presentation	Mar	2020	3-14-20	Retzer	COV	spring workshops
General Public	3	5		home composting	Presentation	Mar	2020	3-14-20	Retzer	COV	spring workshops
General Public	1	6	8	stormwater wkshop	Presentation	Mar	2020	3-17-20	UW-Waukesha	154	annual stormwater workshop moved to virtual and was held in May
Contractors, Dev & Consul	7	1	2	green masters	Presentation	Mar	2020	3-18-20	Retzer	COV	stormwater information for businesses through Green Masters program
General Public	1	2	3	career	Displays and handouts	Mar	2020	3-18-20	Waukesha	COV	employee health and wellness fair
Teachers and Students	2	3	5	career	Presentation	Mar	2020	3-19-20	New Berlin	COV	Ronald Reagan Elementary career day
Teachers and Students	5	3			Presentation	Mar	2020	3-24-20	Retzer	COV	grade 2/3 workshop
General Public	2	3	5	green home	Presentation	Mar	2020	3-31-20	Eagle	COV	program at Eagle library
Teachers and Students	3	5		healthy soils	Presentation	Apr	2020	4-14-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	Presentation	Apr	2020	4-14-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	Presentation	Apr	2020	4-14-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	Presentation	Apr	2020	4-15-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	Presentation	Apr	2020	4-15-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	Presentation	Apr	2020	4-15-20	Oconomowoc	COV	Silver Lake Intermediate School
Teachers and Students	3	5		healthy soils	Presentation	Apr	2020	4-17-20	Brookfield	COV	Brookfield Elementary
Teachers and Students	3	5		healthy soils	Presentation	Apr	2020	4-17-20	Brookfield	COV	Brookfield Elementary
General Public	3	5		social media	Presentation	Apr	2020	4-19-20	Brookfield	1	composing message to kick off virtual earth week celebration
General Public	2	3	5	green home	Presentation	Apr	2020	4-20-20	Retzer	COV	Earth Day Event
Teachers and Students	3	5		soils	Presentation	Apr	2020	4-21-20	Retzer	COV	Middle school
Teachers and Students	2	3	5	career	Presentation	Apr	2020	4-22-20	Muskego	COV	Muskego HS career day
General Public	2	3		household elf	Presentation	Apr	2020	4-23-20	Retzer	COV	girl scout night
Teachers and Students	2	3	5	career	Presentation	Apr	2020	4-24-20	Mukwonago	800	Parkview middle school virtual career day-recorded program available to all students
General Public	2	3	5	water resources	Presentation	Apr	2020	4-25-20	Retzer	COV	Earth day event
General Public	2	3	5	green home	Presentation	Apr	2020	4-28-20	Pewaukee	COV	5th grade
General Public	2	3	5	social media	Presentation	Apr	2020	4-28-20	Pewaukee	COV	program at Pewaukee Library
General Public	5	8		social media	social media	May	2020	5-4-20		1	May the 4th composting and healthy soil message
Contractors, Dev & Consul	6	8			workshop	May	2020	5-5-20	statewide	149	Revenge of the 5th--turn your soil to the dark side... with compost!
Contractors, Dev & Consul	6	8			workshop	May	2020	5-6-20	statewide	142	online stormwater workshop- BMP maintenance and inspection and dewatering
General Public	5	1		rain gardens and bar	workshop	May	2020	5-7-20	statewide	133	online stormwater workshop - artificial wetlands, green infrastructure and wetlands
General Public	2	3		social media	presentation	May	2020	5-12-20	Muskego	20	online rain garden and rain barrel class for Inpro
Teachers and Students	5	5		green schools	green schools	May	2020	5-19-20	Menomonee Falls	1	Green cleaners
General Public	2	3		social media	social media	May	2020	5-25-20		1	May the 4th composting and healthy soil message
General Public	2	3		social media	social media	May	2020	5-25-20		1	Revenge of the 5th--turn your soil to the dark side... with compost!
General Public	9	9		benchmark	Stream Monitoring	May	2020	5-26-20	Sussex	1	how to properly dispose of hazardous waste while spring cleaning
General Public	9	9		benchmark	Stream Monitoring	May	2020	5-28-20	Waukesha	2	benchmark on Sussex Creek
General Public	9	9		benchmark	Stream Monitoring	May	2020	5-28-20	Waukesha	2	benchmark on Pewaukee River at the junction with the Fox
General Public	9	9		benchmark	Stream Monitoring	May	2020	5-29-20	Eagle	1	benchmark on Scuppernon river @Hwy Z
General Public	9	9		benchmark	Stream Monitoring	May	2020	5-29-20	Mukwonago	1	benchmark on Mukwonago River
General Public	9	9		benchmark	Stream Monitoring	May	2020	5-30-20	Waukesha	1	benchmark for level 2 on Pebble Creek at TT
General Public	2	3		social media	stream monitoring	Jun	2020	6-8-20	Oconomowoc	2	benchmark on Roseno Creek
General Public	2	3		social media	presentation	Jun	2020	6-16-20	Sussex	1	storm drain education for world ocean day
General Public	9	9		benchmark	Stream Monitoring	Jun	2020	6-18-20	Waukesha	3	virtual Green home program through Sussex Library
General Public	9	9		benchmark	Stream Monitoring	Jun	2020	6-22-20	Genesee	2	benchmark monitoring on Genesee Creek and Spring Brook
General Public	9	9		benchmark	Stream Monitoring	Jun	2020	6-25-20	Mukwonago	2	benchmark on Mukwonago river at Rainbow Springs

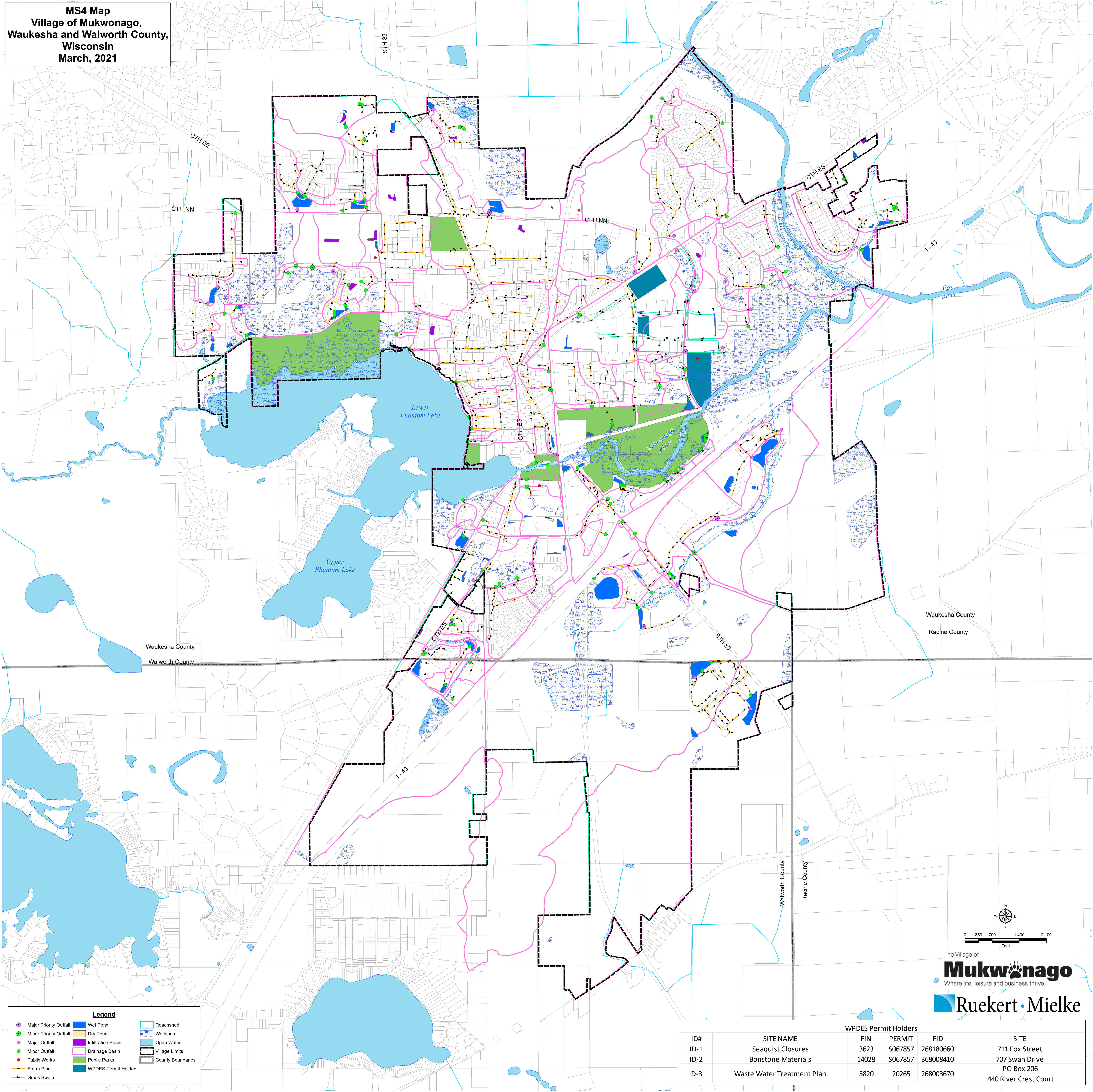
General Public	4	9	6	Asian Clam	Asian Clam survey	Jul	2020	7-7-20	Pewaukee	14	Asian Clam survey on Pewaukee River
General Public	3	5	6	Soil and Water	Soil and Water ment badge	Jul	2020	7-15-20	Retzer	19	Soil and Water ment badge workshop
General Public	1	2		Sustainability	Sustainability ment badge	Jul	2020	7-16-20	Retzer	19	Sustainability ment badge workshop
General Public	2			social media	social media	Jul	2020	7-20-20		1	proper disposal of household hazardous waste
General Public	1			social media	social media	Jul	2020	7-25-20		1	adopt a drain promo
General Public	1			social media	news releases/articles	Jul	2020	7-27-20		1	adopt a drain press release
General Public	1			social media	social media	Jul	2020	7-27-20		1	proper disposal of used motor oil
General Public	1			social media	news releases/articles	Jul	2020	7-28-20		1	adopt a drain promo
General Public	2			outreach	displays and handouts	Jul	2020	7-28-20		250	Adopt a drain segment on Morning Blend TV show
General Public	2			social media	social media	Jul	2020	7-31-20		1	pet waste message for talk in an elevator day
General Public	1				Storm Drain Stenciling	Jul	2020		Menomonee Falls	1	volunteer contacted us and received 80 storm drain markers
General Public	1				Storm Drain Stenciling	Jul	2020		Brookfield	1	volunteer contacted us and received 20 storm drain markers
General Public	2			social media	social media	Aug	2020	8-3-20		1	composting message for sneak some zucchini on your neighbors porch day
General Public	3			social media	social media	Aug	2020	8-9-20		1	post on lawn care for national lazy day
General Public	1			social media	social media	Aug	2020	8-10-20		1	post on books--All the Way to the Ocean
General Public	3			social media	social media	Aug	2020	8-10-20		1	post on lawn care for national lazy day
Teachers and Students	9			workshop	teacher workshop	Aug	2020	8-11-20	Retzer	9	Citizen Science in the Classroom workshop
General Public	1			benchmark	Stream Monitoring	Aug	2020	8-13-20	Sussex	1	benchmark flow at Sussex Creek
General Public	1			morning blend	news releases/articles	Aug	2020	8-17-20		1	repeat of Adopt a drain segment on Morning Blend TV show
Teachers and Students	3			healthy soils	presentation	Aug	2020	8-19-20	Retzer	30	virtual healthy soils for Sussex Day Camp
General Public	7			social media	social media	Sep	2020	9-1-20		1	social media post on lawn care
General Public	1			adopt a drain	Newsletters/articles	Sep	2020	9-3-20		79	newsletter for adopt a drain participants
General Public	4			social media	social media	Sep	2020	9-4-20		1	social media post on lawn care
General Public	5			social media	social media	Sep	2020	9-6-20		1	social media post on lawn care
Contractors, Dev. & Consul	7			smart sailing	training	Sep	2020	9-8-20		28	Smart sailing for roads virtual workshop
Teachers and Students	3			healthy soils	presentation	Sep	2020	9-9-20	Waukesha	23	healthy soils program for Prairie Elementary
Teachers and Students	3			healthy soils	presentation	Sep	2020	9-17-20	Waukesha	57	virtual healthy soils program for 3 classes at Rose Glen
Teachers and Students	3			healthy soils	presentation	Sep	2020	9-17-20	Oconomowoc	#	virtual healthy soils program for St. Jerome s-technical issues cancelled program
General Public	2			social media	social media	Sep	2020	9-19-20		1	social media about pet waste
Contractors, Dev. & Consul	7			smart sailing	training	Sep	2020	9-22-20		19	Smart Sailing Parking lots virtual workshop
Teachers and Students	3			healthy soils	presentation	Oct	2020	10-1-20	Muskego	72	program for Lakeview Elementary in Muskego Norway district
General Public	2			social media	social media	Sep	2020	9-26-20		1	social media post about green cleaning
Teachers and Students	1			presentation	presentation	Oct	2020	10-1-20	Retzer	14	stream life workshop at Retzer for school kids
Teachers and Students	1			presentation	presentation	Oct	2020	10-1-20	Retzer	8	stream life workshop at Retzer for school kids
General Public	1			social media	social media	Oct	2020	10-2-20		1	World smile day about adopting a storm drain
General Public	2			outrage	Displays and handouts	Oct	2020	10-6-20	Oconomowoc	125	National night out event
General Public	3			social media	social media	Oct	2020	10-12-20		1	national farmer day post about testing soils before fertilization
General Public	1			5	social media	Oct	2020	10-13-20		1	national train your brain day crossword puzzle
Teachers and Students	3			healthy soils	presentation	Oct	2020	10-15-20	Waukesha	35	healthy soils for Hadfield Elementary
Teachers and Students	3			healthy soils	presentation	Oct	2020	10-15-20	Retzer	12	stream life workshop at Retzer for school kids
General Public	3			soils	presentation	Oct	2020	10-15-20		3	virtual program for science fest
General Public	2			social media	social media	Oct	2020	10-24-20		*	virtual program for soils and basement weiness for adults as part of science fest
Teachers and Students	1			presentation	presentation	Oct	2020	10-27-20	Retzer	10	post includes picking up pet waste for national make a difference day
Teachers and Students	1			presentation	presentation	Oct	2020	10-27-20	Retzer	7	stream life workshop at Retzer for school kids
General Public	2			social media	social media	Nov	2020	11-1-20		1	social media post about using vinegar for green cleaning
General Public	3			healthy soils	presentation	Nov	2020	11-3-20	Retzer	4	outdoor classroom on soils
General Public	3			healthy soils	presentation	Nov	2020	11-3-20	Retzer	4	outdoor classroom on soils
General Public	3			healthy soils	presentation	Nov	2020	11-4-20	Retzer	3	outdoor classroom on soils
General Public	3			healthy soils	presentation	Nov	2020	11-4-20	Retzer	12	outdoor classroom on soils
General Public	2			water resources	presentation	Nov	2020	11-5-20	Waukesha	4	outdoor classroom on soils
General Public	3			social media	social media	Nov	2020	11-8-20		30	virtual program for school district of Waukesha
General Public	3			healthy soils	social media	Nov	2020	11-17-20		1	social media post about soil health
General Public	3			healthy soils	presentation	Nov	2020	11-19-20	Retzer	10	outdoor classroom on soils
General Public	3			healthy soils	presentation	Nov	2020	11-19-20	Retzer	10	outdoor classroom on soils
Teachers and Students	7			social media	social media	Dec	2020	12-8-20		1	social media post about salt use
Teachers and Students	1			social media	presentation	Dec	2020	12-17-20	Sussex	18	water testing with biology students
General Public	1			social media	social media	Dec	2020	12-21-20		1	social media post with crossword puzzle
Teachers and Students	1			social media	presentation	Dec	2020	12-22-20	Sussex	14	water testing with AP students
Teachers and Students	1			social media	presentation	Dec	2020	12-22-20	Sussex	21	water testing with AP students

COV indicates that program was cancelled due to COVID

* indicates that there were no participants

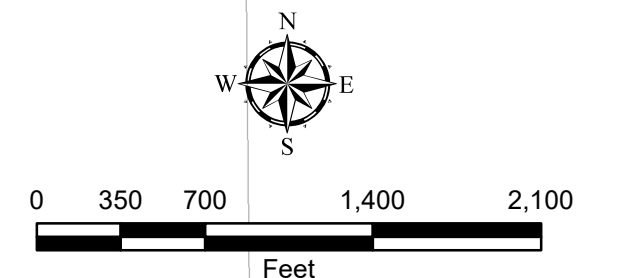
technical issues prevented program from happening

MS4 Map
Village of Mukwonago,
Waukesha and Walworth County,
Wisconsin
March, 2021



Legend

Major Priority Outfall	Wet Pond	Reachshed
Minor Priority Outfall	Dry Pond	Wetlands
Major Outfall	Infiltration Basin	Open Water
Minor Outfall	Drainage Basin	Village Limits
Public Works	Public Parks	County Boundaries
Storm Pipe	WPDES Permit Holders	
Grass Swale		



The Village of
Mukwonago
 Where life, leisure and business thrive.
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ID#	SITE NAME	WPDES Permit Holders			SITE
		FIN	PERMIT	FID	
ID-1	Seaquist Closures	3623	5067857	268180660	711 Fox Street
ID-2	Bonstone Materials	14028	5067857	368008410	707 Swan Drive
ID-3	Waste Water Treatment Plan	5820	20265	268003670	PO Box 206 440 River Crest Court

2.6.1 Village of Mukwonago Structure List

*Facilities with Storm Water Maintenance Agreements (SWMA) are included in the Village's water quality reduction calculations.**

Device ID	Device Type	Year Constructed	Subdivision	Location	Name 1	Name 2	Address	City, State, Zip	SWMA on File	Drawing on File
3	WET POND	2017	Fairwinds	Stoeker Farm Ave. & Rosewood Dr.	Fairwinds HOA	C/O TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	Yes
4	WET POND	2017	Fairwinds	Stoeker Farm Ave. & Rosewood Dr.	Fairwinds HOA	C/O TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	Yes
2	WET POND	2001	Fairwinds	Fairwinds BLVD. & Stoeker Farm Ave.	Fairwinds HOA	C/O TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	No
1	WET POND	2001	Fairwinds	Fairwinds BLVD. & Stoeker Farm Ave.	Fairwinds HOA	C/O TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	No
18	WET POND	2012	Minors Estates ADD #3	Augusta Dr.	MINORS HOMESTEAD WEST HOMEOWNERS ASSOC		PO BOX 683	MUKWONAGO, WI 53149-0683	Yes	Yes
15	WET POND	2005	Minors Estates ADD #1	Brookway Dr.	MINORS HOMESTEAD WEST HOMEOWNERS ASSOC		PO BOX 683	MUKWONAGO, WI 53149-0683	Yes	No
14	WET POND	2005	Minors ADD #1 Minors West HOA	Brookway Dr. & North of CTH LO	MINORS HOMESTEAD WEST HOMEOWNERS ASSOC		PO BOX 683	MUKWONAGO, WI 53149-0683	Yes	No
13	WET POND	2005	Minors Estates ADD #1	Brookway Dr. & CTH LO	MINORS HOMESTEAD WEST HOMEOWNERS ASSOC		PO BOX 683	MUKWONAGO, WI 53149-0683	Yes	No
12	WET POND	2003	Minors Estates	Minors Dr. & CTH LO	MINORS HOMESTEAD WEST HOMEOWNERS ASSOC		PO BOX 412	MUKWONAGO, WI 53149-0412	Yes	No
17	WET POND	2005	Minors Estates ADD #2	Valhalla Dr.	MINORS HOMESTEAD WEST HOMEOWNERS ASSOC		PO BOX 683	MUKWONAGO, WI 53149-0683	Yes	No
16	WET POND	2005	Minors Estates ADD #2	Valhalla Dr.	MINORS HOMESTEAD WEST HOMEOWNERS ASSOC	FAIRWINDS	PO BOX 683	MUKWONAGO, WI 53149-0683	Yes	No
20	INFILTRATION BASIN	2003	Honey Meadow	W Side Ave	HONEY MEADOWS CONDO ASSOC. BB-00-RESMUR-442		PO BOX 7571	HICKSVILLE, NY 11802-7571	NO	No
47	WET POND	2003	State of WI	S. Rochester St. & Front St	WISCONSIN HWY COMMISSION		PO BOX 7910	MADISON, WI 53707-7910	NO	No
8	WET POND	2005	The Glen of Mukwonago	Black Bear Dr.	Real Estate Specialists	ATT Wayne Grabowska	P.O. Box 438	Pewaukee WI 53072	Yes	Yes
5	WET POND	ORIG/2001 RETROFIT/2020	Village Owned	E. Veterans Way	Village of Mukwonago	C/O Ron Bither	440 River Crest Ct. 857 S. ROCHESTER ST. SUITE 300	Mukwonago, WI 53149	Village Owned	Yes
45	WET POND	1993	Brooklife Church	857 S. Rochester St.	Brooklife Church		440 River Crest Ct. 857 S. ROCHESTER ST. SUITE 300	MUKWONAGO, WI 53149 WI	Yes	No
46	WET POND	2003	State of WI	S. Rochester St. & Mukwonago River	WISCONSIN HWY COMMISSION		PO BOX 7910	MADISON, WI 53707-7910	Owned	Yes
48	WET POND	1999	State of WI	Holz Pkwy. & Park and Ride	WISCONSIN HWY COMMISSION		PO BOX 7910	MADISON, WI 53707-7910	Owned	Yes
53	WET POND	1995	Village Owned	Miniwaukan Park, Middle	Village of Mukwonago	C/O Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	Yes
52	WET POND	1995	Village Owned	Miniwaukan Park, East	Village of Mukwonago	C/O Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	Yes
54	WET POND	1995	Village Owned	Miniwaukan Park, West	Village of Mukwonago	C/O Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	Yes
49	WET POND	1999	Village Owned	Holz Pkwy. South of Mukwonago River	Village of Mukwonago	C/O Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	No
37	WET POND	2003	Walmar/Home Depot	250 East Wolf Run	WAL-MART REAL ESTATE BUSINESS TRUST	C/O PROPERTY TAX DEPT MS 0655, ATTN MS 222	PO BOX 8050, PO 2440,	BENTONVILLE, AR 72712-8050 SPOKANE, WA 99210	NO	No
					HOME DEPOT USA INC. PARTNERSHIP		632 OAKLAND AVE	MUKWONAGO, WI 53149-1246	NO	No
40	WET POND	2003	Village Owned	East Termini of E. Wolf Run	Village of Mukwonago	C/O Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	Yes
51	WET POND	1999	Village Owned	Holz Pkwy. N. of Mukwonago River	Village of Mukwonago	C/O Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	No
50	WET POND	1999	Village Owned	Holz Pkwy. N. of Mukwonago River	Village of Mukwonago	C/O Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	No
21	WET POND	1992	Whispering Bay Condos	1024 Bay View Ct	Real Estate Specialists	ATT Wayne Grabowska	P.O. Box 438	Mukwonago, WI 53149	NO	No
23	WET POND	2016	Premier Woods Apts	540 Phantom Woods Rd.	TW PHANTOM WOODS LLC		5120 GATEWAY RD	BROOKFIELD, WI 53045-5112	Yes	No
Device ID	Device Type		Subdivision	Location	Name 1	Name 2	Address	City, State, Zip	SWMA on File	Drawing on File
30	WET POND	2007	Orchards #1	1304 Orchardview Ln.	ORCHARDS OF MUKWONAGO HOMEOWNERS ASSOC	C/O JASON CHRISTENSEN	1339 CIDER CIRCLE	MUKWONAGO, WI 53149	Yes	No
31	WET POND	2007	Orchards #1	1334 Cider Circle	ORCHARDS OF MUKWONAGO HOMEOWNERS ASSOC	C/O JASON CHRISTENSEN	1339 CIDER CIRCLE	MUKWONAGO, WI 53149	Yes	No

Device ID	Device Type	Subdivision	Location	Name 1	Name 2	Address	City, State, Zip	SWMA on File
28	WET POND	Orchards #1	1414 Applewood Cir.	ORCHARDS OF MUKWONAGO HOMEOWNERS ASSOC	C/O JASON CHRISTENSEN	1339 CIDER CIRCLE	MUKWONAGO, WI 53149	Yes
29	WET POND	Orchards #1	1446 Applewood Cir.	ORCHARDS OF MUKWONAGO HOMEOWNERS ASSOC	C/O JASON CHRISTENSEN	1339 CIDER CIRCLE	MUKWONAGO, WI 53149	Yes
33	WET POND	Legend Meadows	Bear Pass	LEGEND MEADOWS ASSOC INC	C/O NANCY DIDENKO	W320N1161 BUTTERNUT RIDGE CT	DELAFIELD, WI 53018	Yes
36	WET POND	Pro Health	DWG Medical Ctr 240 Maple Ave	WAIKESHA MEMORIAL HOSPITAL	C/O GLENDA R SCHEEL-WEINDER	725 AMERICAN AVE	WAIKESHA, WI 53188	Yes
58	WET POND	Fox River View	1623 Fox River Run	Fox River View HOA		PO BOX 966	WAIKESHA, WI 53187-0966	Yes
60	WET POND	Edgewood Condos	Grey Fox Trail	EDGEWOOD MEADOWS CONDO ASSN	C/O CAMCO MANAGEMENT INC	16535 W BLUEMOUND RD #120	BROOKFIELD, WI 53005	Yes
59	WET POND	Edgewood Condos	Grey Fox Trail	EDGEWOOD MEADOWS CONDO ASSN	C/O CAMCO MANAGEMENT INC	16535 W BLUEMOUND RD #120	BROOKFIELD, WI 53005	Yes
61	WET POND	Edgewood Condos	Grey Fox Trail	EDGEWOOD MEADOWS CONDO ASSN	C/O CAMCO MANAGEMENT INC	16535 W BLUEMOUND RD #120	BROOKFIELD, WI 53005	Yes
7	INFILTRATION BASIN	The Glen of Mukwonago	Black Bear Dr.	Real Estate Specialists	ATT Wayne Grabowska	P O Box 438	Pewaukee WI 53072	Yes
11	INFILTRATION BASIN	Minors Estates	Minors Dr.	MINORS HOMESTEAD HOMEOWNERS ASSOC		PO BOX 412	MUKWONAGO, WI 53149-0412	Yes
43	WET POND	400 Bay View Rd	400 Bay View Rd	B&B INVESTMENT PROPERTIES		6135 OVERLOOK CT.	GREENDALE, WI 53129-2135	Yes
41	WET POND	Chelsea Lynn Parkway	325 Bayview Rd - Chelsea Lynn Parkway	MB KLUM INVESTMENTS LLC.		231 N GRANDVIEW BLVD SUITE 222	PEWAUKEE, WI 53072-5595	Yes/DA
35	WET POND	State of WI	STH 83 & E Wolf Run	WISCONSIN HWY COMMISSION		PO BOX 7910	MADISON, WI 53707-7910	Owned
34	WET POND	Dewey Dr. Industrial Park	Dewey Drive	Village of Mukwonago THE ORCHARDS OF MUKWONAGO LLC	C/O Ron Bither	440 River Crest Ct	Mukwonago, WI 53149	Village Owned
32	WET POND	Orchards #2	CTH ES/Regress Rd	THE ORCHARDS OF MUKWONAGO LLC		11600 W LINCOLN AVE	Mukwonago, WI 53149	Owned
25	WET POND	Premier Arts	540 Phantom Woods Rd	TW PHANTOM WOODS LLC		3120 GATEWAY RD.	BROOKFIELD, WI 53045-5112	Yes
22	WET POND	Premier Arts	540 Phantom Woods Rd	TW PHANTOM WOODS LLC		3120 GATEWAY RD.	BROOKFIELD, WI 53045-5112	Yes
24	WET POND	Hawks Ridge East	E. Veterans Way	HAWKS RIDGE EAST		700 LARRY COURT	BROOKFIELD, WI 53045-5112	Yes
9	INFILTRATION BASIN	Condos	E. Veterans Way	MUKWONAGO YMCA		245 EAST WOLF RUN	Waukesha, WI 53188	Yes
38	WET POND	Mukwonago YMCA	245 E. Wolf Run	MUKWONAGO YMCA		245 EAST WOLF RUN	MUKWONAGO, WI 53149	Yes
39	INFILTRATION BASIN	Mukwonago YMCA	245 E. Wolf Run	MUKWONAGO YMCA		245 EAST WOLF RUN	MUKWONAGO, WI 53149	Yes
27	INFILTRATION BASIN	Mosler Properties	1340 Main St.	LOT OWNERS OF M&M PROPERTIES	JEFFREY I MUELLER	S107M24850 S SHORE DR	MUKWONAGO, WI 53149-9504	Yes
26	INFILTRATION BASIN	Mosler Properties	1340 Main St.	LOT OWNERS OF M&M PROPERTIES	MUELLER PROPERTIES LLC	PO BOX 178	MUKWONAGO, WI 53149	Yes
42	WET POND	SCHMIDT & BARTELT	930 Main St.	SCHMIDT & BARTELT	SANDMAR PROPERTIES LLC	1888 AQUA VIEW CT	CEBARBURG, WI 53012-9148	Yes
55	WET POND	CHR Hansen	600 Perkins Dr	CHR HANSEN INC		S107M24850 S SHORE DR	MUKWONAGO, WI 53149-9504	Yes
56	WET POND	Ridgeway	700 Swan Dr.	BASSETT HOLDING GROUP INC		PO BOX 178	MUKWONAGO, WI 53149	Yes
62	WET POND	Badger Cour	1007 Fox St.	MADEY ENTERPRISES INC		1698 AQUA VIEW CT	CEBARBURG, WI 53012-9148	Yes
63	INFILTRATION BASIN	MCL	Park Ave/Division St.	Village of Mukwonago		930 MAIN ST	MUKWONAGO, WI 53149	Yes
10	INFILTRATION BASIN	District Office	E. Veteran Way	MUKWONAGO AREA SCHOOLS		440 River-Crest Ct	MUKWONAGO, WI 53149	Yes
6	INFILTRATION BASIN	St. Johns Church	W. Veterans Way	ST. JOHNS CHURCH		388 CTH NN E	MUKWONAGO, WI 53149	Yes
70	INFILTRATION BASIN	MINORS HOMESTEAD ADD 3	Medina Drive	MINORS HOMESTEAD WEST HOMEOWNERS ASSOC		410 CTH NN W	MUKWONAGO, WI 53149	Yes
71	INFILTRATION BASIN	MINORS HOMESTEAD ADD 3	Outlot 13	MINORS HOMESTEAD WEST HOMEOWNERS ASSOC		PO BOX 683	MUKWONAGO, WI 53149-0683	Yes
69	WET POND	ALDI	111 E WOLF RUN	ALDI Inc Oak Creek Division	C/O Tom Howard	PO BOX 683	MUKWONAGO, WI 53149-0683	Yes
72	INFILTRATION BASIN	File Dept. Station 1	1111 Fox Street	Village of Mukwonago	C/O Ron Bither	9322 South 13th Street	Oak Creek, WI 53154	Yes
64	INFILTRATION BASIN	MHS	Mukwonago Union High	MUKWONAGO AREA SCHOOLS		440 River-Crest Ct	Mukwonago, WI 53149	Village Owned
63	INFILTRATION BASIN	MHS	Mukwonago Union High	MUKWONAGO AREA SCHOOLS		386 CTH NN E	MUKWONAGO, WI 53149	Yes
65	INFILTRATION BASIN	122 Arrowhead Real Estate LLC	122 Arrowhead Drive	122 Arrowhead Real Estate LLC		386 CTH NN E	MUKWONAGO, WI 53149	Yes
66	WET POND	Chapman Place	Chapman Place	ANDERSON COMMERCIAL GROUP	C/O RAY GOODEN	PO Box 183	Lela Geneva, WI 53147-0183	Yes
						8975 W FOREST HOME AVE.	GREENFIELD, WI 53228	Yes

Device ID	Device Type	Subdivision	Location	Name 1	Name 2	Address	City, State, Zip	SWMA on File	
67	INFILTRATION BASIN	Chapman Place	Chapman Place	ANDERSON COMMERCIAL GROUP	CO RAY GOODEN	8575 W FOREST HOME AVE.	GREENFIELD, WI 53228	Yes	Yes
68	WET POND GREASE/OIL SEPARATOR	KWIKTRIP	Black Bear Blvd	KWIK TRIP		PO BOX 2107	LA CROSSE, WI 54603	Yes	Yes
75	WET POND	Chelsea Lynn Parkway	325 Bayview Rd - Chelsea Lynn Parkway	MB KLUM INVESTMENTS LLC.		231 N GRANDVIEW BLVD. SUITE 222	PEWAUKEE, WI 53072-5885	Yes/DA	No
73	INFILTRATION BASIN	ANTIGUA REAL	355 BAYVIEW RD	JABE LLC		W341 59275 CORNER ST. 231 N GRANDVIEW BLVD. SUITE 222	EAGLE, WI 53119	Yes/DA	No
78	WET POND	Chelsea Lynn Parkway	325 Bayview Rd - Chelsea Lynn Parkway	MB KLUM INVESTMENTS LLC.		447 BAY VIEW RD	PEWAUKEE, WI 53072-5885	Yes/DA	No
77	DRY POND	Village Car Care	J&N Auto	VILLAGE AUTOMOTIVE LLC			MUKWONAGO, WI 53149	Yes	Yes
79	WET POND	Village Owned	Mukwonago High School	Village of Mukwonago	CO Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Yes	Yes
78	DRY POND	ALDI	111 E WOLF RUN	ALDI Inc. Oak Creek Division	CO Tom Howard	9342 South 13th Street	Oak Creek, WI 53154	Yes	Yes
80	WET POND	Milwaukee Tool	Milwaukee Tool	Milwaukee Tool	CO Steve Tolla	929 PERKINS DRIVE	MUKWONAGO, WI 53149	NO	No
81	BIOFILTRATION DEVICE	Village Owned	Chapman Farms	Village of Mukwonago	CO Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	Yes
83	WET POND	Village Owned	TID#5 Pond 1	Village of Mukwonago	CO Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	Yes
84	WET POND	Village Owned	TID #5 Pond 2	Village of Mukwonago	CO Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	Yes
85	WET POND	Box Self Storage	Van Buren Dr.	THE BOX SELF STORAGE LLC	ROB CHANDLER	1665 N. WATER ST.	MILWAUKEE, WI 53202-2061	Yes	In Process
86	INFILTRATION BASIN	Box Self Storage	Van Buren Dr.	THE BOX SELF STORAGE LLC	ROB CHANDLER	1665 N. WATER ST.	MILWAUKEE, WI 53202-2061	Yes	In Process
88	BIOFILTRATION DEVICE	Village Owned	Chapman Blvd	Village of Mukwonago	CO Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	Yes
87	BIOFILTRATION DEVICE	Village Owned	Chapman Blvd	Village of Mukwonago	CO Ron Bither	440 River Crest Ct.	Mukwonago, WI 53149	Village Owned	In Process
91	WET POND	Chapman Farms	Chapman Farms	BIELINSKI HOMES INC	CO TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	In Process
90	WET POND	Chapman Farms	Chapman Farms	BIELINSKI HOMES INC	CO TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	In Process
92	WET POND	Chapman Farms	Chapman Farms	BIELINSKI HOMES INC	CO TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	In Process
89	WET POND	Chapman Farms	Chapman Farms	BIELINSKI HOMES INC	CO TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	In Process
93	INFILTRATION BASIN	Chapman Farms	Chapman Farms	BIELINSKI HOMES INC	CO TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	In Process
94	RAIN GARDEN	Chapman Farms	Chapman Farms	BIELINSKI HOMES INC	CO TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	In Process
95	BIOFILTRATION DEVICE	Edgewood Village	Edgewood Ave	WEH PROPERTIES	WARREN HANSEN	PO BOX 437	ELKHORN, WI 53121	Yes	Yes
100	WET POND	Hill Ct	Hill Court Multi-Tenant	HILL COURT PARTNERS LLC		3885 N BROOKFIELD RD STE 200	BROOKFIELD, WI 53045-5112	Yes	In Process
101	BIORETENTION BASIN	Hill Ct	Hill Court Multi-Tenant	HILL COURT PARTNERS LLC		3885 N BROOKFIELD RD STE 200	BROOKFIELD, WI 53045-5112	Yes	In Process
97	WET POND	Meadowland Townhomes	CTH NN & CTH EE	BIELINSKI LLC	CO TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	In Process
98	RAIN GARDEN	Meadowland Townhomes	CTH NN & CTH EE	BIELINSKI LLC	CO TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	In Process
99	RAIN GARDEN	Meadowland Townhomes	CTH NN & CTH EE	BIELINSKI LLC	CO TIM VOELLER	1830 MEADOW LN STE A	PEWAUKEE, WI 53072	Yes	In Process
96	WET POND	Phantom Lakes	Phantom Lakes Preserve	THE POINTE APARTMENTS LLC		W3468 Canby Road J	EAST TROY, WI 53120-1757	Yes	In Process
102	RAIN GARDEN	Phantom Lakes	Phantom Lakes Preserve	THE POINTE APARTMENTS LLC		W3468 Canby Road J	EAST TROY, WI 53120-1757	Yes	In Process
103	UNDERGROUND STORAGE	Pointe Apartments	Pointe Apartments	THE POINTE APARTMENTS LLC		W3468 Canby Road J	EAST TROY, WI 53120-1757	Yes	In Process
104	UNDERGROUND STORAGE	Pointe Apartments	Pointe Apartments	THE POINTE APARTMENTS LLC		W3468 Canby Road J	EAST TROY, WI 53120-1757	Yes	In Process
105	DRY POND	Storage Works	Mukwonago Dr.	MBAR HOLDINGS LLC		PO BOX 367	PEWAUKEE, WI 53072-0633	Yes	In Process
106	WET POND	Storage Works	Mukwonago Dr.	MBAR HOLDINGS LLC		PO BOX 367	PEWAUKEE, WI 53072-0633	Yes	In Process
107	WET POND	Hittman Prop.	101 Arrow Head Dr.	Hittman Prop.		36723 HOLLYHOCK WOODS DR	OCCONOMOUC, WI 53066-8611	Yes	Yes
108	UNDERGROUND STORAGE	Lynch Automotive	280 E. WOLF RUN	LYNCH VENTURES	CO MARK GREENE	280 EAST WOLF RUN	MUKWONAGO, WI 53149	Yes	Yes
109	UNDERGROUND STORAGE	Lynch Automotive	280 E. WOLF RUN	LYNCH VENTURES	CO MARK GREENE	280 EAST WOLF RUN	MUKWONAGO, WI 53149	Yes	Yes



Office of the Village Public Works Dept.

440 River Crest Court, Mukwonago, Wisconsin 53149 | (262) 363-6447 | Fax: (262)363-7197
www.villageofmukwonago.com

Village of Mukwonago Storm Water Pollution Prevention Plan for Municipal Property

Site: Village of Mukwonago Public Works Department Site
630 Veterans Way East Mukwonago, WI 53149

Contact info.: Ron Bittner, Director of Public Works
262-363-6447
rbittner@villageofmukwonago.com

Site Description

The Public Works Department property located at 630 CTH NN E. is the central location for the department's activities and storage. Facilities include the repair shop and parking garage, salt shed, sand shed, cold storage building, outdoor storage, police impound and a fueling station. The fueling center is utilized by the Inspections, Utilities, DPW, Police and Fire Departments.

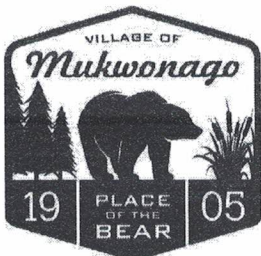
The Public Works yard is a six-acre parcel; the department utilizes approximately five of these acres. The remaining acreage is zoned environmental corridor. A municipal well and water tower are located on the south west corner of the property. The property is bordered on the south by CTH NN E., the Canadian National Rail Road on the west and farm fields owned by the St. James Parish on the east. The eastern and western property lines intersect on the north.

The Public Works yard was established in 1972. The main building was remodeled along with a 9,000 SFT addition in 2000. A 1,000-ton salt shed was added to the compound in 2011.

Runoff Prevention Practices and Maintenance Activities

The Village of Mukwonago has been covered under the WPDES Municipal Storm Separate Sewer System (MS4) Discharge Permit WI-S050075-2 since 2009. Staff submitted a Storm Water Pollution Prevention Plan (SWPPP) map for the Public Works yard, which helped identify efficiencies and pollution prevention practices that could be installed to protect the nearby water resources. Staff is in the process of removing discarded materials that have been stored in the yard and consolidating other items into smaller, more manageable areas, thus removing potential sources of pollution. Removing obsolete equipment and consolidating materials on site also means fewer runoff prevention practices are necessary, and less time installing, maintaining, and inspecting these practices associated with this task.

Runoff from the Village's Public Works yard flows to the west towards a swale adjacent the Canadian National RR tracks. The pavement changes to gravel before entering the swale on the west side of the property. Runoff from the pavement area partially infiltrates in to a gravel area prior to entering the swale.



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The Village of Mukwonago continues to evaluate potential runoff pollution resulting from the Public Works yard activities and has implemented measures to reduce pollution.

The following actions and improvements have been implemented at the Village of Mukwonago DPW yard:

- Installing bays around stockpiled material
- Using wattles around stock pile not contained within a bin.
- Tarping street sweepings and stock piles.
- Modern salt shed.
- Replacement of obsolete equipment with multi use units. This process allows the department to free up inside equipment storage.
- Installation of a new electronic fueling station with maximum fill control per specific vehicle.
- Vehicle washing and rinsing be done indoors.
- Vehicle maintenance completed in repair shop.

Maintenance and inspections are critical for ensuring prevention activities function properly. Without inspections or maintenance, debris, and pollutants such as sediment, metals, nutrients, etc., that are captured can become a source of pollution if excess amounts are carried out with rain and snow melt. Any inspections and maintenance of storm water pollution practices should be documented and recorded for comparison and evaluation of their performance.

Building of stockpile containment bins was started several years ago, cold patch material and street sweepings are currently binned and tarped. Any material that spills or is tracked away from the immediate storage area is swept up and deposited back onto the piles. Loose salt that spills or is tracked away from the shed entrance during delivery is swept up and placed in the shed. Any excess salt that spills during loading of trucks during a snow/ice event is also swept up and placed back in the salt shed. The salt shed itself is designed to meet the requirements of Trans 207, Wisconsin Administrative Code.

The lawn is mowed as needed, depending on the weather.

Temporary storage of items such as posts for snow fence, garbage & recycling barrels, etc., occupy space around the perimeter of the sheds in winter until crews deliver these items to Village parks in the spring.

Most of the Village Departments utilized the fueling center. Employee training includes review of the spills procedures and location of the spills kit.

The floor drains in the main garage are connected to the sanitary sewer system, rather than the storm sewer system. Any fluids from vehicle maintenance or other activities inside the garage are directed through this system to the Wastewater Treatment Plant. Floor drains are cleared of debris on an as-needed basis. An oil/grease separator allows recurring clean-out and maintenance of the system.



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Recommendations to Enhance Runoff Protection

Village staff have previously taken steps to implement runoff control practices and to minimize the materials that could be sources of runoff pollution at the Public Works yard. Current recommendations include:

1. Sweep up any spilled salt and return into inventory.

Spills Plan

Dry materials that spill is swept up and either disposed of or replaced in the bins for future use, if possible. (Example: dry salt spilled on the ground can be swept up and put back in the salt pile for use in the future.)

Liquids that spill on the ground are absorbed, with the absorption materials disposed of properly depending on the liquid. The Fire Department would be notified for major spills and handled in accordance to the Village and Town of Mukwonago Emergency Management Plan.

Staff are trained on which authorities to contact depending on the situation, such as the Fire Department, Police Department, or the Wisconsin Department of Natural Resources.

New staff are educated on the spills plan when they start, and any policy changes are communicated to appropriate staff at the time of the changes. As part of the Storm Water Pollution Prevention Plan, the spills plan will be evaluated yearly and any changes will be summarized in the Village's MS4 annual report.

Employee Training

Public Works Department training is an on-going activity for staff. Changes in procedure are communicated with appropriate staff, and new staff receive training on safety procedures and overall operations of the department. Any portions of the SWPPP, including the spills plan, that affect staff in other departments are shared with those departments.

Inspections

Inspections are conducted quarterly and documented on a SWPPP inspection form. Items noted on the inspection reports are corrected as soon as possible. The yard is evaluated on a recurring basis to improve operations.

Legend



- Compost Pile
- Salt Shed
- Seeded Topsoil Pile
- Road Gravel Pile
- #1 Stone Pile
- Sand /Salt Shed
- DPW Cold Storage
- PD Cold Storage
- Fueling Station/
Two 1000 Gal Tanks
Dumpsters
- Tarped Cold Patch
- Bin for Street
Sweepings
- Waste Oil Tank
Located in Garage
- 1500 Gal Salt Brine
Tank
- DPW Maintenance
Shop
- Municipal Well and
Water Tower

0 83.33 Feet

Notes:

The information and depictions herein are for informational purposes and Waukesha County specifically disclaims accuracy in this reproduction and specifically admonishes and advises that if specific and precise accuracy is required, the same should be determined by procurement of certified maps, surveys, plats, Flood Insurance Studies, or other official means. Waukesha County will not be responsible for any damages which result from third party use of the information and depictions herein, or for use which ignores this warning.



STORM WATER POLLUTION PREVENTION PLAN (SWPPP) INSPECTION FORM FOR MUNICIPAL FACILITIES

Site:	
Location:	
Inspector/Title:	
Date:	
Last Inspection (Date):	

Storm Water Pollution Prevention Plan

Has a storm water pollution prevention plan been developed for this site? Yes No

Title of Plan: Village of Mukwonago SWPPP for Municipal Facilities

Date of Plan: April 2016

Does the SWPP include a site map, list of pollutant sources, pollutant control practices to be inspected, and maintenance procedures? Yes No

(Indicate any items that are *not* included):

Vehicle Maintenance, Washing and Fueling

#	Activity/Practice	Inspected?	Activity/ Practice Adequate?	Corrective Action Needed & Notes
1	Vehicle maintenance area drains to sanitary sewer system	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
2	Vehicle maintenance area has oil-grease separator in floor drains	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
3	Floor drains are clean	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
4	Vehicle washing completed inside building	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
5	Vehicle washing drains to sanitary system	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
6	Vehicle fueling center has canopy/cover	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
7	Vehicle fueling center has clearly labeled spill kit nearby	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
8	Vehicle fueling center has oil-grease separators in nearby storm drains	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Hazardous Waste Management

	Activity/Practice	Inspected?	Activity/ Practice Adequate?	Corrective Action Needed & Notes
1	Hazardous materials and containers are stored indoors	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
2	Containers of hazardous materials are in good condition	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Waste Management

	Activity/Practice	Inspected?	Activity/ Practice Adequate?	Corrective Action Needed & Notes
1	Dumpsters are covered	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
2	Full dumpsters are hauled out on a regular basis	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
3	Piles of miscellaneous debris are sorted and disposed of on a regular basis	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
4	Street sweepings are covered	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
5	Street sweepings are stored in containers or have barriers or perimeter controls to minimize runoff impacts	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Material Storage

	Activity/Practice	Inspected?	Activity/ Practice Adequate?	Corrective Action Needed & Notes
1	Runoff from bulk storage is contained on low side by barriers, bays or other perimeter controls	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
2	Bulk storage piles are stabilized/vegetated	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
3	Materials stored under cover/inside buildings	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
4	Area near salt shed is clear of excess/spilled/tracked salt	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

5	Excess/spilled/tracked salt is swept up and added to bulk salt pile	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
6	Underground runoff containment is emptied on a regular basis	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Old salt/sand shed cleaned as needed

Runoff Controls

	Activity/Practice	Inspected?	Activity/ Practice Adequate?	Corrective Action Needed & Notes
1	Grass filter strips have at least 70% uniform vegetation growth	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
2	Grass filter strips typically have 6 inches or more of vegetation	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
3	Storm water pond inlets/outlets are stable	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
4	Storm water berms are vegetated	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
5	Storm water pond berms are stable (no erosion, tree roots or animal borroughs)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
6	Infiltration basins/rain gardens have at least 70% plant growth	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
7	Infiltration basins/rain gardens are maintained regularly, and in the spring and fall	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
8	Infiltration basins/rain gardens drain down within 24 hours (<i>based on post-rain event observations</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Spills Program

	Activity/Practice	Inspected?	Activity/ Practice Adequate?	Corrective Action Needed & Notes
1	Written program is available for employees	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
2	Employees know where written program is located	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
3	Written program is evaluated annually	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Employee Training

	Activity/Practice	Inspected?	Activity/ Practice Adequate?	Corrective Action Needed & Notes
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1	New employees are trained on SWPPP	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
2	Annual or more frequent training provided to employees on SWPPP	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

	Recommendations/Correction	Completed On (Date)	Initials
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			